LOS TRATADOS DE CONSTRUCCIÓN HISTÓRICOS BRITÁNICOS: SIGLOS XVII Y XVIII

Análisis de sus contenidos sobre técnicas de construcción y su aplicación en rehabilitación

TESIS QUE OPTA A MENCIÓN INTERNACIONAL

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Volumen 1 de 2

III. CONTRASTE CON ALGUNAS REALIDADES CONSTRUIDAS.

1. Introducción

El proceso de lectura de los tratados históricos de construcción británicos se llevó a cabo en la ciudad de Londres, ya que era allí donde se podían consultar los originales de dichos volúmenes. Durante ese período de tiempo se observó una cierta correspondencia entre lo que aparecía escrito en los libros y la realidad: lla sensación de "*déjà vu*" era lo suficientemente fuerte como para indagar, o como mínimo ver hasta qué punto llegaba esta correspondencia.

Por otro lado, empezó a surgir otra pregunta, ¿es un fenómeno aislado en la ciudad de Londres o se da en otros lugares?

Para responder esa pregunta se decide estudiar otra ciudad que cuenta con tratados de construcción propios (aunque sólo sean dos) que es Edimburgo: se decidió ver hasta qué punto la construcción en esta ciudad se correspondía con lo que decían los tratados.

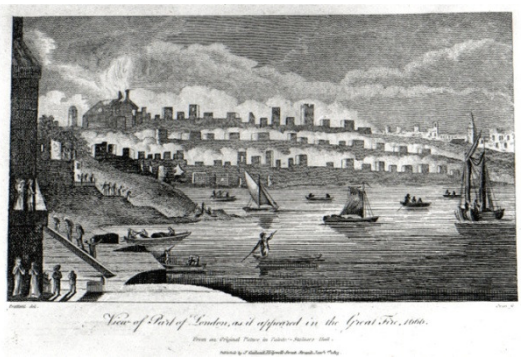
Pero además de los casos que podemos encontrar en la realidad, también se puede contar con planos originales de edificios realizados en esa época. En ellos se puede comprobar la distribución de los edificios que se construían en ese momento y si cumplían con lo que se describía en los libros. Se ha seguido la metodología descrita en el capítulo de bases de la investigación.

En cualquier caso, es casi obligatorio empezar este estudio con una pequeña cronología de lo que acontecía durante este período. Lo que afecta directamente a la construcción y a otro elemento que probablemente jugó un papel vital en esta correspondencia entre lo que se escribe y la realidad: las normativas.

1.1. Breve cronología de la aparición de las normativas.

La historia de las normativas en Reino Unido no se entienden sin el fenómeno fuego; empiezan en Londres a partir del incendio de 1666 pero el hecho de que ciudades "a posteriori" se vieran afectadas por el fuego provoca que se promulguen leyes de reconstrucción que en algunos casos se basan en la normativa de Londres. Pero vamos a centrarnos en las ciudades que nos sirven de ejemplo. (Anexo D.03)

a) *En Londres*



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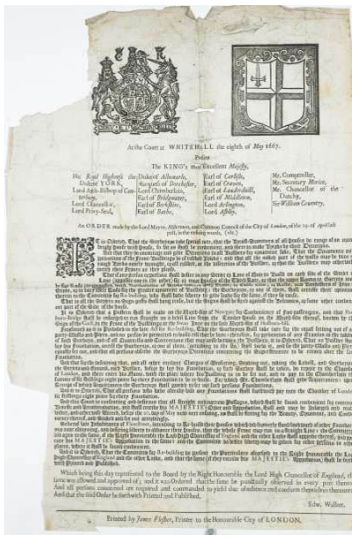
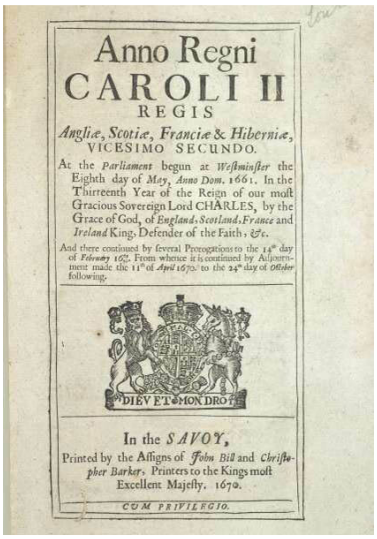
Imágenes del incendio de Londres http://www.london-fire.gov.uk/london-fire-brigade-

En 1666 un gran incendio destruye la ciudad de Londres, lo que provoca varias reacciones. Una de corte urbanístico: el hecho de que las casas estuvieran tan cerca las unas de las otras fue uno de los motivos del incendio, lo que lleva a un nuevo planeamiento de ciudad con calles lo suficientemente anchas para que en caso de incendio hagan de cortafuegos. Una segunda, referente al uso de materiales: se prohíbe la construcción de paredes exteriores de madera, han de ser todas de ladrillo, incluso en edificios existentes se han de sustituir las paredes de madera por las de ladrillo. Estos cambios llevan a abusos, por parte de promotores, constructores y proveedores. Una forma de paliarlos es escribir libros sobre construcción: tanto de sistemas y técnicas, como de mediciones y precios, lo que ayuda a evitar mala praxis por un lado y el encarecimiento de la obra por otro.

Todo ello no sólo se recoge en libros sino que se promulgan toda una serie de leyes conteniendo todas estas ideas para evitar en lo posible que desgracias como el incendio de Londres, afecten pero no con la misma magnitud.


His Majestie's
DECLARATION
To His City of
LONDON,
Upon occasion of the late Calamity by the lamentable
FIRE.
DIEU ET MON DROIT
LONDON,
Printed by *John Bill* and *Christopher Barker* Printers to the KING'S most Excellent Majesty, 1666.
CUM PRIVILEGIO.




Anno Regni
CAROLI II
REGIS
Angliæ, Scotiæ, Franciæ & Hiberniæ,
VICESIMO SECUNDO.
At the *Parliament* begun at *Westminster* the Eighth day of *May*, *Anno Dom.* 1661. In the Thirteenth Year of the Reign of our most Gracious Sovereign Lord CHARLES, by the Grace of God, of *England*, *Scotland*, *France* and *Ireland* King, Defender of the Faith; &c.
And there continued by several Prorogations to the 14th day of *February* 167. From whence it is continued by Adjournment made the 11th of *April* 1670. to the 24th day of *October* following.
DIEU ET MON DROIT
In the *SAVOY*,
Printed by the Assigns of *John Bill* and *Christopher Barker*, Printers to the Kings most Excellent Majesty. 1670.
CUM PRIVILEGIO.

Vistas de las declaraciones de normativas y ampliaciones. Ver ANEXO D.01

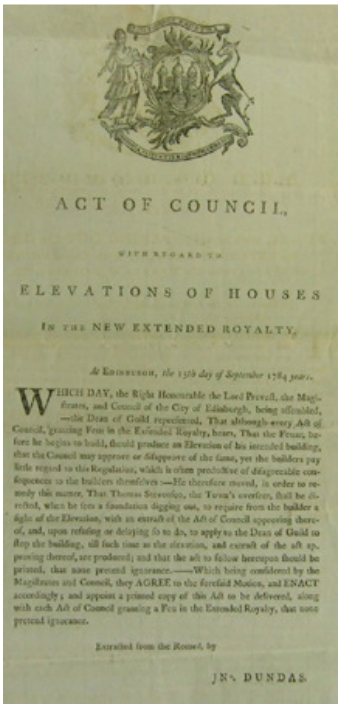
Vista de Londres reconstruido 1777 Ver ANEXO D.01

(70)

b) *En Edimburgo.*

Mientras en Londres se enfrentan con la destrucción casi total de la ciudad, en Edimburgo durante los últimos años del siglo XVII, se producen una serie de incendios que al ser la piedra, el material de construcción, su alcance es más limitado; pero que en cualquier caso en 1698 llevan a la promulgación del "Act of regulating the Manner of Building within the Town of Edinburgh".

A estas leyes se les puede buscar el origen en la figura del "Dean of Guild of Court", figura legal existente desde la época medieval, cuya función era regular derechos de paso y temas de ruidos; pero a partir de los incendios el parlamento les dio potestad para reforzar las leyes sobre construcción. (Anexo D.02)



ACT OF COUNCIL,

WITH REGARD TO

ELEVATIONS OF HOUSES

IN THE NEW EXTENDED ROYALTY.

At Edinburgh, the 15th day of September 1784 years.

WHICH DAY, the Right Honourable the Lord Provost, the Magistrates, and Council of the City of Edinburgh, being assembled, —the Dean of Guild represented, That although every Act of Council, granting Feus in the Extended Royalty, bears, That the Feuar, before he begins to build, should produce an Elevation of his intended building, that the Council may approve or disapprove of the same, yet the builders pay little regard to this Regulation, which is often productive of disagreeable consequences to the builders themselves:—He therefore moved, in order to remedy this matter, That Thomas Stevenson, the Town's overseer, shall be directed, when he sees a foundation digging out, to require from the builder a sight of the Elevation, with an extract of the Act of Council approving thereof, and, upon refusing or delaying so to do, to apply to the Dean of Guild to stop the building, till such time as the elevation, and extract of the act approving thereof, are produced; and that the act to follow hereupon should be printed, that none pretend ignorance.—Which being considered by the Magistrates and Council, they AGREE to the foresaid Motion, and ENACT accordingly; and appoint a printed copy of this Act to be delivered, along with each Act of Council granting a Feu in the Extended Royalty, that none pretend ignorance.

Extracted from the Records, by

JNO. DUNDAS.

(71)

Copy of the Act of Council with regard to the elevations of houses in the new extended Royalty, 19th September 1784, published as a broadsheet and found in the petiton of John Robertson and the Procurator Fiscal versus John Brough, wright, 1 October 1786.

VER ANEXO D.02

c) *Historia común.*

A principios del siglo XVIII Escocia entra a formar parte del Reino Unido, lo que ayuda a un intercambio cultural-arquitectónico entre ambas ciudades: arquitectos escoceses como Robert y William Adams, que no sólo eran arquitectos sino constructores y escritores, trabajan en Londres y arquitectos asentados en Londres (aunque de origen escocés) como Sir William Chambers trabaja en Edimburgo.

Esto unido a que a principios del siglo XVIII, se decide en Edimburgo derribar las murallas de la ciudad, y realizar un ensanche, cuyo primer intento se realiza en George Square (1) y alrededores, pero que al final acaba siendo lo que hoy se denomina "New Town"(2).

El hecho de edificar y plantear una serie de barrios desde cero, de alguna manera hace que Edimburgo se pueda equiparar al caso londinense aunque los motivos sean completamente distintos. (Anexo D.02)

Edimburgo 1582

Edimburgo 1830

(72)

1.2. Objetivos de este capítulo.

Por un lado se va a plantear todos los posibles parámetros que se pueden encontrar en los edificios de la época siguiendo las directrices de los tratados y normativas, en los elementos muro, ventana, escalera y chimenea.

Por otro lado se presentan los edificios caso, o tipo, y finalmente se cruzan datos es decir se observa que parámetros de los anteriores se dan en los edificios.

Es un muestreo al azar y quizás no todo lo riguroso que debiera, de hecho el estudio en profundidad podría consistir en una tesis en sí mismo; aquí el objetivo es justificar la idea de que en Reino Unido los tratados de construcción y la práctica constructiva en esa época se entrecruzaban.

2. Tipificación.

Como hemos dicho el estudio de los casos se lleva desde una óptica centrada en cuatro elementos constructivos: la pared o muro, la ventana, la escalera y la chimenea: el elemento estructural vertical por excelencia y las aberturas que tradicionalmente lo debilitan pero totalmente vitales para que cualquier edificio de varias plantas sea habitable.

Cuando se pasa a la realidad es inevitable darse cuenta de que tres de estos cuatro elementos tienen una parte exterior, que a pesar de que el edificio sea privado, no se necesita ningún permiso para su estudio; por otro lado hay una parte interior, a la que es más difícil tener acceso. Por lo tanto los parámetros a estudiar se dividirán en externos e internos y de cada uno de los ejemplos se comprobarán los externos seguro, y los internos siempre que haya podido haber acceso.

En los cuadros siguientes se enumera los posibles parámetros a buscar no sólo los encontrados en los tratados sino también en las normativas, diferenciando lo que dicen las de Londres con lo que dicen las de Edimburgo.

2.1. Parámetros en el exterior.

Fachada/ Exterior

Pared-ventana	SEGÚN TRATADOS - Pocas ventanas en número y de dimensiones moderadas - Situación de las ventanas alejada del ángulo del muro - Ornamentos en ventanas que no perjudique estructura y no gravoso constructor - Simetría de lo que hay a la derecha de la pared con lo que hay a la izquierda - Hueco sobre hueco/ macizo sobre macizo - En caso de ventanas grandes: arcos de descarga
	SEGÚN NORMATIVA LONDRES/WESTMINSTER (ver anexoD.01). - No ha de haber huecos en las medianeras - No ha de haber decoraciones exteriores en madera, excepto en cornisas o revestimiento de escaparates y nunca por encima del primer piso - Las alturas del edificio han de ser: o Primer ratio: sótano (o no), dos pisos y ático o Segundo ratio: sótano (o no), tres pisos y ático o Tercer ratio: sótano (o no) , cuatro pisos y ático. o Cuarto ratio: mansiones, quedan a discreción de los constructores sin exceder cuatro plantas. *(Nota: los ratios dependen de la anchura de las calles en las que se sitúan los edificios)*
	SEGÚN NORMATIVA EDIMBURGO (ver anexoD.02). - Los edificios no han de sobrepasar los 5 pisos de altura

<table>
<tr><td rowspan="3">Pared</td><td>SEGÚN TRATADOS
- A continuación del cimiento
- Ángulos fuertes
- Disminución de la pared a medida que sube, utilización de “fascias”.</td></tr>
<tr><td>SEGÚN NORMATIVA LONDRES/WESTMINSTER (ver anexo D.01).
<table>
<tr><th>Clase de edificio</th><th>Plantas</th><th>Altura de las plantas</th><th>Grosor de las fachadas ppal. y posterior</th><th>Grosor de las paredes medianeras</th></tr>
<tr><td>Primer</td><td>Sótano</td><td>6pies 6pulg</td><td>2 ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>1ª</td><td>9pies</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>2ª</td><td>9pies</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>Ático</td><td></td><td>1 ladrillo</td><td>1 ladrillo</td></tr>
<tr><td>Segundo</td><td>Sótano</td><td>6pies 6pulg</td><td>2 ½ ladrillos</td><td>2 ladrillos</td></tr>
<tr><td></td><td>1ª</td><td>10pies</td><td>2 ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>2ª</td><td>10pies</td><td>2 ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>3ª</td><td>9pies</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>Ático</td><td></td><td></td><td></td></tr>
<tr><td>Tercer</td><td>1ª</td><td>10pies</td><td>2 ½ ladrillos</td><td>2 ladrillos</td></tr>
<tr><td></td><td>2ª</td><td>10pies6pulg</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>3ª</td><td>9pies</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>4ª</td><td>8pies 6pulg</td><td>1 ½ ladrillos</td><td>1 ½ ladrillos</td></tr>
<tr><td></td><td>Ático</td><td></td><td>1 ladrillo</td><td>1 ladrillo</td></tr>
<tr><td>Cuarto</td><td colspan="4">Mansiones cuyas medidas han de cumplir mínimamente la tabla, el número de pisos queda a discreción del constructor sin exceder 4 pisos.</td></tr>
</table></td></tr>
<tr><td>SEGÚN NORMATIVA DE EDIMBURGO (ver anexo…)
- La anchura de la pared que da a la calle ha de quedar de esta manera:
o El primer piso ha de tener tres pies de ancho
o El segundo piso dos pies y nueve pulgadas de ancho
o El tercer piso dos pies seis pulgadas de ancho
o El cuarto piso dos pies, tres pulgadas de ancho.
o El quinto piso dos pies de ancho.
- Si las paredes se construyen con piedra “ashlar”, que cada décima piedra ha de ir todo lo ancho de la pared como unión.</td></tr>
<tr><td rowspan="3">Ventana</td><td>SEGÚN TRATADOS
- Cornisa grande para la protección de los que estén bajo ellas, y si es muy grande soportada por dos consolas.
- El marco de la ventana ha de ser una sexta parte del hueco de la ventana.
- El retraso del marco es aprovechado para la colocación de cornisa
- Según Leoni, la anchura se mantiene todo lo alto del edificio; la altura en planta 1 es la altura de la habitación menos 1/3; en planta 2 es igual que la de abajo menos ¼ de la misma.</td></tr>
<tr><td>SEGÚN NORMATIVAS LONDRES/WESTMINSTER (ver anexo D.01) :
- Ventanas retiradas de la cara de la pared 4 pulgadas; bajo pago de 3 meses de prisión sin fianza (statute 7th of Queen Anne)
- Colocar fábrica de ladrillo alrededor de las ventanas, y sobretodo realizar arcos de descarga en las zonas de tiendas particularmente (11th of King George I)</td></tr>
<tr><td>SEGÚN NORMATIVA EDIMBURGO (ver anexo D.02):
- La anchura del espacio entre la línea de fachada y la ventana ha de ser de doce a catorce pulgadas.</td></tr>
</table>

Chimenea	SEGÚN TRATADOS - Las partes altas de la chimenea no han de estar ni en un llano, ni en lo alto de una colina. - Evitar fustes de chimeneas muy altos y grandes, pueden provocar accidentes debido a los vientos, 2 pies de altura por encima de la cumbrera (Gerbier) - Parte alta de la chimenea no ha de estar obstruida por nada. - Recomendación de colocar un sombrerete para evitar la entrada de agua, que apague el fuego.
	SEGÚN NORMATIVAS LONDRES/WESTMINSTER (recogidas en el Builders Magazine) - Chimeneas construida espalda contra espalda en medianeras o En primer ratio: 1 ladrillo grosor en sótanos y medio en el resto de pisos o En segundo, tercer y cuarto grado: ¾ de ladrillo de grosor en el sótano y medio en el resto. - Chimenea en medianera no espalda contra espalda: o Desde la parte exterior de la medianera a la cara un ladrillo y medio de grosor. - Partes de atrás no sitas en medianeras o En primer ratio: mínimo ladrillo y medio de grosor en sótano y ladrillo de grosor en el resto de plantas desde el hogar, y 12 pulgadas desde la repisa o En el resto de ratios: un ladrillo de grosor desde el hogar, 12 pulgadas desde la repisa - No se han de hacer cámara de humos en la parte de afuera de ningún edificio de la primera, segunda, tercera o cuarta categoría, cercana a la calle, plaza, court, carretera o camino. - Ninguna cámara de humos de hojalata, cobre, hierro u otra tubería que transporte humo o vapor, se ha de fijar cerca de una calle, plaza, court o camino públicos en ninguna de las categorías, y ninguno de esos tubos ha estar a menos de 14 pulgadas de cualquier madera o material combustible.
	SEGÚN NORMATIVA DE EDIMBURGO (VER ANEXO D.02) - Y los fustes de chimenea que contienen chimeneas en ambos lados, han de tener un pie de grosor entre espalda y espalda de chimenea, y que todos los puentes entre salidas de humo han de tener 3 pulgadas de separación entre ellos.

2.2. Parámetros internos.

Ventanas-chimenea	SEGÚN TRATADOS: - Situación de ventana no incómoda para la chimenea, de cara a los vientos. - No se aconseja chimenea en la pared de la ventana (demasiada decoración en la misma parte de la habitación).
Ventana-escalera	SEGÚN TRATADOS : - Luz cenital a la escalera - Si están en la pared han de estar centradas y ser grandes.

Ventana	SEGÚN TRATADOS: - El tamaño de la ventana ha de ser proporcional a la habitación en la que se encuentra - Altura del alfeizar ha de estar como mínimo a 3,5 pies desde el suelo. - Ha de tener buenas vistas.
Chimenea	SEGÚN LOS TRATADOS - El tamaño de la chimenea depende de la dimensión de la habitación en la que se encuentra. - Nada de madera cerca de la chimenea - Recomendación del uso de mármol en las chimeneas
	SEGÚN NORMATIVAS DE LONDRES/WESTMINSTER (ver anexo D.01) - Ninguna madera ha de estar a menos de 5 pulgadas de cualquier fuego o llama. - Ninguna madera se situará a menos de 12 pulgadas de las jambas de la chimenea - Ninguna madera, viga etc., apoyará a menos de 6 pulgadas de la parte final de la chimenea. - Las cámaras de humo han de estar libres de madera - Jambas y partes traseras de chimenea han de tener un grosor de un ladrillo como mínimo, desde los sótanos a los tejados. - Las cámaras de humo han de estar enyesadas o enlucidas. - Las repisas entre jambas han de tener forma de arco de ladrillo o piedra. - Ninguna madera ha de estar colocada fija en el frontal de ninguna jamba o repisa de ninguna chimenea.
	SEGÚN NORMATIVAS DE EDIMBURGO (ver anexo D.02) - Todos los fustes de chimenea han de tener suficiente espacio para las cámaras de humo, permitiendo diez pulgadas de grosor en la parte de atrás y ocho en el frente, y - La anchura entre la parte de atrás y la de delante ha de estar de acuerdo con los diferentes usos: o Una chimenea de cocina ha de ser de cinco o seis pies de rango, dos pies cuatro pulgadas de ancho entre la parte trasera y la frontal en la parte alta del arco, y gradualmente disminuir hasta llegar a diez pulgadas en un lado y ocho en el otro lado. o En el resto de chimeneas las cuales han de ser de tres pies de rango ha de haber un pie y medio entre la parte de atrás y la frontal en el lintel y disminuir al subir ocho pulgadas en un lado y seis en el otro lado; o Y otras chimeneas de menor tamaño han de tener catorce pulgadas entre la parte trasera y delantera en la zona del lintel y disminuir hacia arriba siete pulgadas en un lado y seis en el otro. - Que los hogares de chimeneas estén en voladizo de piedra de un pie sin la cara de la pared perpendicular para llevar las piedras del hogar, y que permanece para llevar al hogar, si la necesidad lo requiere, se puede suministrar con tablas.

Escalera	SEGÚN TRATADOS: - Buena colocación de la escalera que no interfiera con otras partes de la casa - Tres aberturas: o puerta de entrada a la vista o ventana que de luz (*), o Desembarco espacioso para conveniente entrada al resto de habitaciones. - Dos clases: o A la vista, grandes, anchas y de subida fácil o Lejos de la vista y en zonas de servicio. - Espacio sobre la cabeza ha de ser grande y aireado - La escalera ha de semejar el modo de andar - Casas de ciudad el acceso a la escalera desde las zonas privadas fácil, para poder salir en caso de incendio, y de piedra. - Escalones han de ser todos iguales - Descansillos repartidos para hacerla cómoda - Anchura total suficiente para que suban y bajen dos personas al mismo tiempo.

Este cuadro es un resumen esquematizado de todas las normas que debían cumplir estos elementos desde los puntos de vista de tratados y normativas.

Se pueden hacer varias observaciones a raíz de este cuadro: por un lado, las normativas no tienen en cuenta todos los elementos de construcción, sólo tienen una norma para las ventanas y para las escaleras apenas hay algún comentario. En cambio en la construcción de paredes y chimeneas tienen mucho que decir, (y aunque no se contempla en este estudio de los forjados y la cubierta también) eso se debe a que son los elementos constructivos directamente relacionados con el problema fuego; por otro lado curioso que a pesar de que la escalera no se nombre demasiado en las normativas, en algunos tratados sí que se tiene en cuenta la escalera como medio de escape en caso de incendio.

Lo ideal sería poder encontrar todos los parámetros expuestos, pero algunos no se van a poder observar en los casos, como "no deben existir ventanas en las medianeras". Pero se van a observar los máximos posibles en los casos escogidos.

3. Descripción general de los edificios objeto.

La elección de los edificios que se van a analizar a continuación vino dada, básicamente por su fecha de construcción: son edificios construidos o bien a finales del siglo XVII, después del incendio de Londres, o a lo largo del siglo XVIII que son las fechas que abarcan los tratados estudiados.

Como hemos visto en el apartado anterior, en Londres se dividen los edificios en cuatro ratios, lo bueno sería por lo tanto proceder a comprobar construcciones de cada uno de los mismos, pero del primer ratio, ha sido muy difícil dar con ejemplos adecuados, por lo que se procede directamente al estudio de los otros tres.

En Edimburgo, no hay una diferenciación desde el punto de normativas, pero el estudio de los tipos de edificio que se encuentran en la ciudad, nos permite realizar la siguiente clasificación: tenements (o edificios de alquiler), casa unifamiliar entre medianeras y la mansión.

3.1. Edificios en Londres

La normativa de reconstrucción de 1667, en la que jurídicamente se basa la reconstrucción de Londres dice en sus tres primeros artículos:

"First, that no building for habitation be hereafter erected within the City unless it conforms to the rules and orders of building prescribed in this present Act, (otherwise) **the builder thereof shall be committed to the common gaol till he have abated or demolished the same."**

"Primero, que ningún edificio para vivienda ha de ser erigido en la Ciudad si no cumple las normas y ordenes prescritas en este acta, (de otra manera) **el constructor que lo cometiera ira a la cárcel común hasta que sea abatido o demolido el mismo"**

II That irregular buildings may be better prevented, the City shall erect one or more discreet and intelligent person or persons knowledgeable in the art of building to see the said rules well and truly observed.

II Que los edificios irregulares han de ser mejor prevenidos, la Ciudad se ha de erigir a partir de la discreción de persona o personas discretas e inteligentes en que se vean conocimientos en el arte de construcción y que las dichas reglas sean verdaderamente observadas.

III There shall be only four sorts of building: first and least sort fronting by-lanes, second sort fronting streets and lanes of note, the third sort fronting high and principal streets. The roofs of each shall be uniform. The fourth and largest sort of mansion houses for citizens or other persons of extraordinary quality not fronting the three former ways.

III Habrá solo cuatro clases de edificios: primero y de baja clase de fachada a "lanes", segunda clase de fachada a calles y "lanes" de nota, la tercera clase con fachada a calles principales. Los tejados de cada uno han de ser uniformes. La cuarta y de mayor clase de mansiones para ciudadanos u otras personas de extraordinaria calidad que no tengan fachada a los otros tres caminos formales.

La mayoría de edificios encontrados de esta época son de segunda y tercera clase, aunque los que realmente se pueden visitar sin problemas son los del cuarto ratio.

a) . Primer ratio

Como se dijo en la introducción a este punto, del primer ratio aunque se han encontrado algunos edificios, no se puede asegurar que sean del periodo estudiado. Seguro que hay pero el hecho de que no haya sido fácil su localización se ha pasado directamente a los ejemplos que sí han sido encontrados.

b) . Segundo ratio

El segundo ratio de edificios se refiere a los que están sitos o dan a una "Street" calle o "lane of note" o calle estrecha con cierta categoría: tienen planta sótano (cellar) planta primera, planta segunda, planta tercera y ático o altillo (garret).

<table>
<tr><td> 

(73)</td><td>47, Berwick Street. Distrito de Westminster.
Edificio sito en la zona del Soho, planta baja y dos plantas piso, cubierta en forma de mansarda.
Se puede ver no es el único edificio con paredes de ladrillo y similar diseño
(NOTA de http://www.britishlistedbuildings.co.uk/england/greater+london)
TQ 2981 SW CITY OF WESTMINSTER BERWICK STREET, W1
57/27 // 23.11.78 No. 47
GV II</td></tr>
<tr><td>Terrace house. Early C18, altered. Brown brick, slate roof. 3 storeys. 3 windows wide. Later C20 frontage to ground floor. Upper floors have 3 close-set sash windows, no glazing bars under flat gauged arches. Parapet with coping. Cornet lead rainwater head shared with No. 48 q.v., probably late C18. Original interior features include modillioned cornice to 1st floor front room, moulded dadoes, elements of panelling etc.</td><td>Casa entre medianeras. De Principios del siglo XVIII, remodelada. De ladrillo marrón, tejado de pizarra. 3 plantas. De 3 ventanas de ancho. El frente del piso bajo de finales del siglo XX. Los pisos superiores tienen 3 conjuntos de ventanas de guillotina, sin cuarterones, bajo anchos arcos planos. Antepecho con copia. Cucurucho de plomo para la lluvia cabeza compartido con el numero 48 q.v. probablemente de finales del XVIII. Acabados interiores originales incluyen cornisas en forma de moldura en el primer piso, frisos con molduras, elementos de pared etc.</td></tr>
<tr><td colspan="2">Survey of London; Vol. XXXI. Listing NGR: TQ2942481242
This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage</td></tr>
</table>

(74)

15, George's Street. Distrito de Westminster.
Edificio entre medianeras sito en las cercanías de Regent's Street, planta sótano, tres plantas piso y cubierta amansardada.
Totalmente simétrico.

TQ 2880 NE CITY OF WESTMINSTER ST GEORGE'S STREET, WI
69/135 (west side)
24.2.58 No 15
GV II*

Terrace town house. c.1724. Stuccoed brick and stone with rusticated ground floor, slate roof. Three storeys,basement and dormered attic. Five windows wide, symmetrical about doorway. Stone doorcase with three-quarter Doric columns, mutule pediment and archivolt on imposts. Revealed glazing bar sashes in architrave surrounds, the ground floor with reinstated sashes (1970s). The first floor window heads have alternating segmental and straight pediments. Stone mutule cornice above second floor with blocking course. Stone balustrade to basement area. Interior retains fine original work: panelling, doorcases, to ground floor hall with 3 bay arcade; ground floor right hand room retains marble Corinthian pilasters to chimneypiece wall; marble chimney piece with original minor and ornamental painting in gilded festooned Rococo frame. Upper floors altered after fire damage. Part of Lord Scarborough's Hanover Square development but conforming to the West End town house elevational style of the period rather than to the predominantly German look of its neighbours.

Casa de ciudad entre medianeras. De 1724, de ladrillo estucado y piedra con planta baja rustica, y cubierta de pizarra. Tres pisos sótano y ático. Cinco ventanas de ancho, simétrico desde la puerta de entrada. Puerta de entrada de piedra con columnas tres cuartos dóricas, pedimentos moldeados y arquitrabe en impostas. Se ven ventanas de guillotina con cuarterones, la planta baja con nuevas ventanas de guillotina (1970). La planta primera la parte alta de las ventanas tiene alternancia de pedimentos en segmento y rectos. Cornisa moldeada de piedra sobre el segundo piso bloqueando la hilada. Balaustrada de piedra en la parte del sótano. En el interior se mantiene el trabajo original de panelado, marcos de puerta, en la entrada de planta baja con una arcada de tres cuerpos; la planta baja a la derecha mantiene las pinturas ornamentales en marco de piedra rococó. Los pisos superiores se modificaron después de un incendio. Parte del desarrollo de la plaza Hanover de Lord Scarborough pero conforme con el estilo del periodo West End a pesar del predominante estilo alemán de los edificios vecinos.

Georgian London; John Summerson.

Listing NGR: TQ2891280963

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

*Source: English Heritage(*http://www.britishlistedbuildings.co.uk/england/greater+london)

(75)

165, Wardour Street. Distrito de Westmister.
Edificio cercano al Soho, entre medianeras de tres pisos y cubierta en mansarda.
La planta baja ha sufrido modificaciones relativamente recientes.

TQ 2981 SE & 2981 SW CITY OF WESTMINSTER WARDOUR STREET, W1
58/30 ; 57/46
23.11.78 No. 165
II

Terrace house. c.1735. Stock brick, upper part of front rebuilt, slate roof. 3 storeys and dormered mansard. 2 windows wide. Altered ground floor with mid C20 drop front. Upper floors have recessed windows, later casements to 1st floor and sashes with glazing bars to 2nd floor, under flat gauged red brick arches. Parapet with coping. Internal surviving features include probably original dog leg closed string staircase with balusters boxed in.

Casa entre medianeras de 1735. Ladrillo stock, la parte alta de la fachada reconstruida, tejado de pizarra. 3 pisos y una cubierta en mansarda. 2 ventanas de ancho. Alteración de la planta baja a mediados del siglo 20 disminuye la fachada. Los pisos superiores tienen ventanas retrasadas, con bisagras en el primer piso y con guillotina y cuarterones en el Segundo piso, bajo calibrados arcos de ladrillo rojo. Parapeto con copia. Sobreviven algunos elementos internos incluido probablemente el original balaustre cerrado y la caja de escalera con balaustres cerrándola.

Survey of London; Vol. XXXI.

Listing NGR: TQ2950481168

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage (http://www.britishlistedbuildings.co.uk/england/greater+london)

(76)

101, Charing Cross Road. Distrito de Westminster.
Edificio entre medianeras, no lejano al Soho Londinense, de tres plantas y ático. La fachada de la planta baja no es original.

CHARING CROSS ROAD TQ 2981 SE
58/102// No 101
II
GV

House, now shops with accommodation above. Late C171early C18 with later alterations. Brick, plain tiled butterfly-form roof. Tall party wall parapets. 3$ storeys, 2 bays. Ground floor late C20 shop fronts and fascia. First floor pair of tall sashes in flush frames, beneath segmental brick arches. 2nd floor pair of casements with lights above, also in flush frames and beneath segmental brick arches. Tall proportions of windows may reflect early window forms. 3-light tall dormer behind parapet. Interior: Above ground floor retains original plan form. Staircase with moulded, closed string. Some original turned balusters, moulded rail, columnar newels with square bases and knobs, the finials missing. Rare survival of early house representing the earliest phase of Soho's development (q.v.) Nos 2, 4, 5 and 6 Old Compton Street.

Casa, ahora tienda con hostal en la parte alta. De finales del XVII principios del XVIII con posteriores alteraciones. Ladrillo, tejado de teja plana con forma de mariposa. Medianeras altas parapetos. 3 pisos, 2 vanos. La planta baja tiene la fachada de la tienda del siglo XX, y fascia. EL primer piso un par de ventanas de guillotina en marcos alineados, bajo arcos de ladrillo segmentados. El 2o piso un par de ventanas de bisagra con luz por encima, también en marcos alineados y debajo de arcos de ladrillo segmentados. La proporción alta de las ventanas refleja las originales formas de las ventanas. 3 luces altas claraboyas, detrás del parapeto. Interior: sobre la planta baja se mantiene la forma del plano original. La caja de escaleras con molduras, cadena cerrada. Algunos balaustres originales en espiral, barandilla trabajada, las columnas del ojo de escalera con bases cuadradas y pomos, los acabados faltan. Rara superviviente casa temprana representante de la primera fase de desarrollo del Soho (q.v.) Nos 2,4,5 y 6 de la calle Old Compton

Listing NGR: TQ2987681103

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage

(77)

20&21, St. James Square. Distrito de Westminster.
Edificio entre medianeras de planta sótano, tres plantas y cubierta en mansarda que acoge el ático.
El número 20, es el que mantiene más elementos originales fue diseñado por R. Adam
La simetría se mantiene con relación a los 2 edificios.

TQ 2980 SW CITY OF WESTMINSTER ST. JAMES'S SQUARE SW1
81/103 // Nos 20 and 21
24.2.58
GV I

Terraced town houses. No 20 (comprising 3 northernmost bays) of 1771-75 by Robert Adam for Sir Watkin Williams Wynn, No 21 rebuilt very tactfully in 1936 by Mewls and Davis so as to duplicate the facade of No 20 and form one composition. Portland stone, slate roof. 4 storeys, basement and stone dormers in mansard of 1936. 7 windows wide. Rusticated ground floor with windows and doors each end in semicircular arched openings, doors with side lights and delicately patterned fanlights; glazing bar sashes. The square headed glazing bar sashes of 1st and 2nd floors, those on piano nobile in semicircular arched panels with consoled pediments, are articulated by a giant order of fluted Corinthian pilasters carrying main entablature with Paterae frieze. 1936 attic storey with dentil cornice and balustraded parapet. Enriched plat band to 2nd floor between giant pilasters. Cast iron area railings. Rear elevation has a bow and a wing on north side of courtyard. Very fine Adam interior of No 20 virtually intact; grand staircase with copper balustrade of openwork balusters, top lit in oblong well, former Eating Room and Music Room on ground floor, 1st floor drawing rooms, all retaining original plasterwork, paintings by Zucchi, mahogany doors and door furniture etc

Casa entre medianeras. N 20 (comprende 3 lados de norte) de 1771-75 de Robert Adam para Sir Watkin Williams Wynn, No 21 reconstruido con mucho tacto en 1936 por Mewls y Davis así como un duplicado de la fachada del n20 y formando una composición. Piedra de Portland, y tejado de pizarra. 4 plantas, sótano y durmientes de piedra en la mansarda de 1936. 7 ventanas de ancho. Planta baja rustica con ventanas y puertas cada una en aberturas en arcos semicirculares, puertas con lados iluminados y delicados dibujos en abanico; ventanas de guillotina con cuarterones. Las ventanas cuadradas en guillotina de los pisos 1° y 2°, aquellos que en el plano noble con paneles en arcos semicirculares con pedimentos en forma de consola, están articulados por unos pilastras gigantes de orden corinto estriados que llevan la entablatura con friso Paterae. 1936 piso ático con cornisa dentada y un parapeto con balaustres. Platabanda enriquecida en el segundo piso entre las grandes pilastras. Área de barandilla de acero encastado. Detrás de la fachada tiene un arco y un ala a la parte norte del court. Un interior muy bonito de Adam en el n. 20 virtualmente intacto; una gran escalera con una barandilla balaustrada, la parte alta en forma oblonga, un comedor formal y una habitación de música en la planta baja, en la planta primera una habitación de dibujo, todo mantiene el estucado original, pinturas de Zucchi, puertas de mahogany y mobiliario.

Survey of London; vol XXIX .
Listing NGR: TQ2965580489

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage

c) . Tercer ratio

El tercer ratio de edificios se refiere a los que están sitos o dan a una calle alta (High) o principal: tienen planta sótano (cellar) planta primera, planta segunda, planta tercera, planta cuarta y ático o altillo (garret).

<table>
<tr>
<td> 
(78)</td>
<td>25, Harley Street. Distrito de Westminster.
Edificioentre medianeras con sotano, tres plantas piso y atico bajo cubierta.
En la planta baja se pierde la simetría, se sabe que hubo modificación en el siglo XIX.

TQ 2881 SE CITY OF WESTMINSTER HARLEY STREET WI
56/32 (west side)
No 25
GV II</td>
</tr>
<tr>
<td>Terrace house. Late C18. Stock brick with rusticated stucco ground floor, slate roof. Four storeys, basement; dormered mansard. Three windows wide. Cornice at third floor level. Plain square headed doorway to left with vermiculated keystone, C19 door. Revealed sash windows, no glazing bars, under gauged flat brick arches to upper floors. Area railings have tasselled spear head finials.</td>
<td>Casa entre medianeras. De finales del siglo XVIII ladrillo con estuco rustico en planta baja. Cuatro pisos, sótano; cubierta en mansarda. Tres ventanas de ancho cornisa en el nivel del tercer piso. Sencilla puerta cuadrada en la dejada con piedra clave vermiculada, puerta del siglo XIX. Ventanas de guillotina a nivel, con cuarterones, debajo de arcos planos en los pisos altos. La barandilla de área tiene cabezas finales en forma de borla en lanza.</td>
</tr>
<tr>
<td colspan="2">Listing NGR: TQ2869281488

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage</td>
</tr>
</table>

(79)

24, Hanover Square. Distrito de Westminster.
Vivienda entre medianeras, de fachada de ladrillo, con sótano, cuatro plantas piso y ático bajo la cubierta en mansarda. La fachada mantiene cierta simetría compositiva aunque la puerta de entrada está a un lado

TQ 2881 SE CITY OF WESTMINSTER HANOVER SQUARE W1
56/128
69/90 No 24
24.2.58
- II

Town house. c.1717. Brown brick, slate roof. Four storeys and basement, mansard with dormers 3 windows wide. Red brick quoin pilasters. Moulded stone cornice and blocking
course. Shallow revealed glazing bar sash windows have red segmental arches and dressings, fluted keystones and aprons below sills giving vertical emphasis. Wooden doorcase with fluted Corinthian pilasters to right. Later shop windows inserted. Interior altered later C20 but retains cut string turned baluster staircase. One of the original houses in the square, comparable with those remaining in St George
Street, qv.

Casa de ciudad del año 1717. De ladrillo marrón, tejado de pizarra. Cuatro pisos y sótano, mansarda con durmientes 3 ventanas de ancho. Ladrillo rojo en pilastras. Cornisa modelada de piedra e hilada bloqueada. Se observan ventanas de guillotina con vidrios con cuarterones tienen arcos segmentados y decoradas piedras clave y plataforma debajo los alfeizares dando un énfasis a la verticalidad. Puerta de entrada de madera con pilastras corintias. Unas tardías escaparates insertadas. El interior se remodelo a finales del siglo XX pero mantiene una cortada caja de escalera de cuerda balaustrada. Una de las casas originales de la plaza, comparable con aquellas que se mantienen de la calle St. George.

Listing NGR: TQ2889280998

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage


(80)

23, Brook Street. Distrito de Westminster.
Edificio entre medianeras, de cuatro plantas y ático. La planta baja ha sufrido modificaciones "recientes".

TQ 2880 NE CITY OF WESTMINSTER BROOK STREET W1
69/143 (south side)

8.3.76 No 23

GV II

Terrace house. Early C18, stuccoed and altered C19, slate roof. Four storeys and dormered mansard. 3 windows wide. Mid to late C20 shop front takes up ground floor. Upper floors have flush framed sashes, no glazing bars, in moulded architraves, those on first floor with cornices. Dentil cornice and blocking course.

Casa entre medianeras. De principios del siglo XVIII estucada y remodelada en el siglo XIX, tejado de pizarra. De cuatro plantas y cubierta en mansarda. 3 ventanas de ancho. Escaparte de mediados del siglo XX toma todo la parte baja. Los pisos superiores tienen ventanas de guillotina enmarcadas y alineadas, sin cuarterones, con arquitrabes decorados, esos en la primera planta con cornisas. Cornisa adintelada e hilada de bloque.

Listing NGR: TQ2875980969

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage

(81)

25, Brook Street. Distrito de Westminster.
Vivienda entre medianeras de cuatro plantas. Se puede observar el acabado de ladrillo, compositivamente es muy similar a la anterior.

TQ 2880 NE CITY OF WESTMINSTER BROOK STREET W1
69/41 (south side)

24.2.58 No 25

GV I

Terrace house. c.1725 with C19, C20 alterations. Dark red brick, slate roof. Four storeys. Three windows. Ground floor has modern shop front. Upper floors flanked by giant pilasters. Plat bands at second and third floor levels. Main cornice and parapet flanked by urns. Revealed windows with gauged brick arches, segmental on first and second, flat on third floor, all with heavy C19 stucco sills. Interior much altered but retains dog-leg staircase with open string and carved brackets to tread ends, turned and twisted banisters Residence for more than 30 years of G F Handel: LCC plaque.	Casa entre medianeras de 1725 con remodelaciones del siglo XIX y XX. Ladrillo rojo oscuro, y tejado de pizarra. Cuatro plantas. Tres ventanas. Planta baja tiene un escaparate moderno. Los pisos superiores flanqueados por pilastras gigantes. Platabandas en el Segundo y tercer nivel. La cornisa principal y el parapeto flanqueados por urnas. Ventanas alineadas con arcos de ladrillo grueso, segmentados en el primer y segundo piso, plano en el tercer piso, todo con estuco pesado del siglo XIX. Interior muy alterado pero mantiene la escalera con pie de perro con cuerda abierta y finales tratado con ménsulas talladas, barandillas en rampa y girada. Residencia por más de 30 años de G.F Handel: LCC placa. Survey of London XL.

Listing NGR: TQ2875580967

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage

(82)

3, Cavendish Square. Distrito de Westminster.
Vivienda entre medianeras de sótano, cuatro plantas piso y ático bajo cubierta en mansarda.

TQ 2881 SE CITY OF WESTMINSTER CAVENDISH SQUARE W1
56/73 (east side) 10.9.54 No 3
II*
GV

Substantial terrace house. C.1740. Brown brick, slate roof. Four storeys; basement and slated mansard with dormers. Four windows. Stone plat bands and main cornice at third floor level. Revealed sash windows with red brick dressings and gauged flat arches. Early C19 cast iron balconettes to first floor. Large stone architrave doorcase with console brackets to cornice. Cast iron area railings. Interior has good staircase in front compartment to piano nobile, with dado and full height panelling, stairs open string with carved tread ends and twisted balusters, ramped handrail, scrolled to foot and with columnar newels. Panelled drawing room with entablatured doorways. Marble carved chimneypieces to front and rear. Service stairs with turned baluster off rear vestibule, etc.

Casa entre medianeras de 1740. De ladrillo marrón, tejado de pizarra. De 4 plantas; sótano y cubierta mansarda de pizarra con claraboyas. Cuatro ventanas. Platabandas de piedra y la cornisa principal a la altura de la tercera planta. Mostradas ventanas de guillotina con arcos planos gruesos de ladrillo rojo. Balconcillos de principios del XIX de hierro empotrados. Gran puerta de entrada arquitrabada de piedra con grapas consola en la cornisa. Barandilla de área de hierro. El interior tiene una Buena escalera en frente de un compartimento nobile, con panelado total, escaleras de cuerda abierta con finales tallados y balaustres torneados, y pasamanos en rampa, que llega hasta los pies y con ojo de escalera columnada. La habitación de dibujo panelada con entabladuras en la puerta. Chimenea de mármol tallado en la parte frontal y la final. Las escaleras de servicio con balaustre torneado en la parte de atrás del vestíbulo.

Listing NGR: TQ2888481366

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

Source: English Heritage

d) Cuarto ratio.

La descripción de este ratio según la normativa es:

X The fourth sort of building being mansion houses of the greatest bigness shall bear the same scantlings as in the Table, the number of stories and height thereof left to the discretion of the builder, so long as he exceed not four stories.	X la cuarta clase de edificios son las casas mansión de mayor tamaño para compartir los mismos requisitos de la tabla, el número de pisos y la altura queda a la discreción del constructor, aunque no debe exceder las cuatro plantas.

De este tipo encontramos un ejemplo perfectamente accesible ya que en la actualidad es un museo, y otro que a pesar de no funcionar propiamente como vivienda sí que sigue la mayoría de los para metros anteriores.

(83)

Kenwood House:
Mansión rehabilitada entre 1764 y 1779, de tres plantas. En este caso las dependencias del servicio no están bajo tierra sino en edificios colindantes.

Kenwood House, on the edge of London's Hampstead Heath, was probably first built in the early 17th century. It was transformed into a fine neoclassical villa by the Scottish architect Robert Adam for William Murray, 1st Earl of Mansfield, between 1764 and 1779. The interiors designed by Adam include some of his finest surviving schemes, particularly the Great Room or library. Kenwood is now home to the 1st Earl of Iveagh's collection of Old Master and British paintings by Rembrandt, Vermeer and others, bequeathed to the nation in 1927. In 2012 a major refurbishment project began, and the house reopened in late 2013.	Kenwood house, se sitúa al margen de Hampstead Heath de Londres, fue probablemente construida en un principio a principios del siglo XVII. Fue transformada en una Hermosa villa neoclásica por el arquitecto escoces Robert Adam para William Murray, primer conde de Mansfield, entre 1764 y 1779. Los interiores diseñados por Adam incluyen algunos diseños que han sobrevivido, particularmente la gran habitación o biblioteca. Kenwood es ahora el hogar de la colección del primer conde de Iveagh de viejos maestros y pintores británicos desde Rembrand, Vermeer y otros, legados a la nación en 1927. En 2012 empezó un gran proyecto de restauración, y la casa se reabrió a finales del 2013.

Source: English Heritage. http://www.english-heritage.org.uk/visit/places/kenwood/history/

(84)

Somerset House,

The Somerset House that we see today stands on the site of an earlier Tudor palace that was demolished in 1775.
(…)
Chambers, who had lamented the destruction of the old Somerset House and been critical of Robinson's designs, was appointed to design and supervise the construction of 'a great public building... an object of national splendour'.
It had to accommodate the three principal learned societies - the Royal Academy of Arts, the Royal Society, and the Society of Antiquaries - as well as various government offices. In particular, he had to provide the Navy Board with quarters that would reflect the rising importance of the Navy at a time when Britain was almost constantly at war.
To further complicate his task, the King's Bargemaster was also to be based at Somerset House. This required that there was direct access to the Thames, enabling officers of the Navy Board to travel back and forth to the warehouses and dockyards at Deptford and Greenwich. The new building also had to provide living accommodation for the heads of the various departments housed there, including space for cooks, housekeepers, secretaries and many others.
Chambers solved this problem by treating the offices as a series of town houses arranged in a quadrangular layout, extending across the whole site of the old palace and its gardens and out into the Thames, some six acres in all.
Each department, regardless of size, was allocated a vertical slice of accommodation; six storeys comprising - cellar, basement, ground floor, first floor, attic and garret. By seeking to conceal two storeys below ground and one in the roof, Chambers reduced the visual impact to that of a building only three

La Somerset House que vemos hoy se sitúa en el lugar de un palacio Tudor que fue demolido en 1775
(…)
Chambers, el cual lamentaba la destrucción de la vieja Somerset House y fue crítico con los diseños de Robinson, fue requerido para el diseño y supervisión de la construcción del gran edificio público… un objeto de esplendor nacional.
Tenía que acomodar las tres principales sociedades de conocimiento- la Real Academia de las Artes, la "Royal Society", y la Sociedad de Anticuarios- así como varias oficinas gubernamentales. EN particular el Consejo Naval con cuarteles que reflejaran la importancia de la Marina en un tiempo en que Bretaña estaba constantemente en guerra.
Para complicar el trabajo el Almirante del Rey quería tener base en Somerset House. Este requerimiento se debía que había acceso directo al Támesis, capacitando a los oficiales del Consejo Naval regresar a los almacenes y puertos de Deptford y Greenwich. El nuevo edificio también tenía que tener alojamiento para los jefes de varios departamentos alojados allí, incluido espacio para cocineros, amas de llaves, secretarios y muchos más.
Chambers soluciono este problema tratando las oficinas como una serie de casas de ciudad alineadas en un cuadrangular plano, extendiéndose a lo largo del total del lugar del antiguo palacio y sus jardines y llegando al Támesis, unos seis acres en total.
Cada departamento, dependiendo de su tamaño, se coloca en una franja vertical de alojamiento; seis pisos comprendiendo bodega, sotano, planta baja, primer piso, atico y buhardillo. Buscando disimular dos pisos bajo y otro bajo la cubierta, Chambers reduce el impacto visual quedando un edificio de solo tres plantas de alto, y proveyendo a cada uno de los varios departamentos de grandes

storeys high, while providing each of the various departments with a large set of rooms and its own separate entrance.	habitaciones y su propia y separada entrada.
Souce: At Somerset House. *History from 18th Century* http://www.somersethouse.org.uk/history/since-the-18th-century	

Este diseño de Chambers nos permite considerar el edificio como ejemplo de mansión, ya que a pesar de ser un edificio público se concibe como un edificio para varias "familias".

Además el hecho de hacerlo con diferentes entradas, nos da la oportunidad de ver diferentes estilos dentro del edificio.

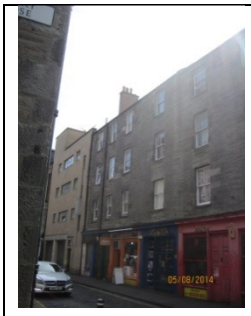
3.2. Edificios en Edimburgo

a) "Tenements" o edificios de viviendas para alquilar.

<table>
<tr>
<td> 
(85)</td>
<td>7-13, Buccleuch St. :
Edificio construido en la segunda mitad del siglo XVIII, de 4 plantas ático y sótano. Esquina de piedra ashlar. Fachada simétrica.</td>
</tr>
<tr>
<td>Description: 1780s. 4-storey attics and basement. 6-window ashlar. Triple centre Roman Doric. Pilastered doorpiece, pediment over central door. Bow at back.

Notes: Picturesque backs with bow fronts at nos 1-25. The first feus were taken out in 1779. Building began in 1780. Most of the houses were built by James Brown before 1792 but 2 on the south side were built by John Simpson and Alex Deans in 1786 and 1788 and another 2 by Charles Black and Walter Paterson in 1791-2. Arthur Bolton in the Architecture of R & J Adam p 201 gives one Chilling as the architect but no authority for this statement can be found, nor yet any trace of a Mr Chilling at or near that date. The plainer early blocks are probably by Brown himself; those with channelled or rusticated ground floors are probably</td>
<td>Descripción: 1780s. 4-plantas, áticos y sótanos. 6-ventanas ashlar. Triple central marco de puerta apilastrado dórico romano, pedimento sobre la puerta central. Arco en la parte de atrás.

Notas: Bloques pintorescos con frentes en arco en los nos 1-25. Los primeros fueron sacados en 1779. La construcción empezó en 1780. Muchas de las casas fueron construidas por James Brown antes de 1792 pero 2 en el lado sur fueron construidos por John Simpson y Alex Deans en 1786 y 1788 y otros dos por Charles Black y Walter Paterson en 1791-2. Arthur Bolton en la arquitectura de R&J Adam p.201 un Chilling como el arquitecto pero no autoridad para ese estado ha podido ser encontrado, no hay ninguna pista de Mr. Chilling para esa fecha o alguna cercana. El planteamiento de los primeros bloques fue de Brown mismo; aquellos que están acanalados o con "rusticates" plantas bajas son los más probables.</td>
</tr>
<tr>
<td colspan="2">Source: Historic Scotland</td>
</tr>
</table>

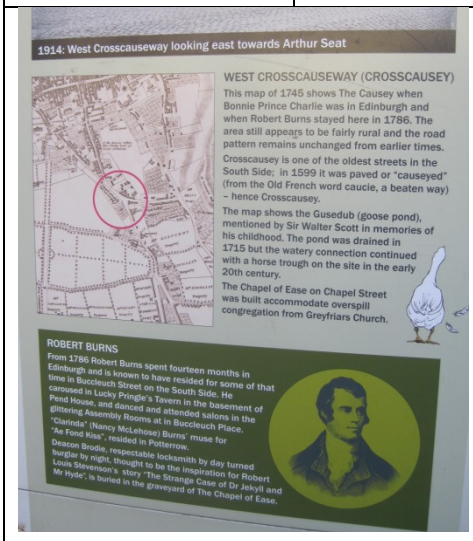


(86)

15, West Crosscauseway, St

Dentro del grupo de edificios construidos en la segunda mitad del siglo XVIII alrededor de George Sq, en lo que iba a ser la "new town" original de la ciudad.

Aunque actualmente no está dentro de los "listed buildings" hay un movimiento ciudadano en favor de la revitalización de esta zona de la ciudad, y se está recuperando la historia de la misma.



El mapa de 1745 muestra The Causey cuando Bonnie Príncipe Carlos estuvo en Edimburgo y cuando Robert Burns estuvo aquí en 1786. El área continúa pareciendo rural y la carretera guía permanece inalterada desde los primeros tiempos.

Crosscauseway es una de las calles más antiguas en el lado sur; en 1599 fue pavimentada o "causeyed" (del francés viejo), es mencionada por Sir Walter Scott en sus memorias de infancia. El estanque fue dragado en 1715 pero la conexión de agua continuo a través de caballo en el lugar a principios del siglo XX.

b) Casas unifamiliares entre medianeras.

(87)

16-20, George Sq.

Edificios pertenecientes a la primera fase de ampliación de la ciudad, de mediados del siglo XVIII, de planta semi-sótano, planta baja, planta piso y planta altillo. Actualmente están unidos, son edificaciones auxiliares de la universidad.

GEORGE SQUARE 16 AND 17 (Ref:28809)Description 1767. 2-storey (2nd floor mansard attic added later) and basement: 3-window front: Victorian consoled doorpiece. Craigmillar stone with pinnings.

GEORGE SQUARE 18 (Ref:28810)Description 1774. 2-storey (2nd floor attic storey added later) and basement: 3-window front; architraved doorpiece with cornice. Craigmillar stone with pinnings.

19 GEORGE SQUARE (Ref:47583) Description 1771 2-storey (2nd floor attic storey added later) and basement: 3-window front: architraved doorpiece with cornice. Craigmillar stone with pinnings.

20 GEORGE SQUARE (Ref:47584) Description 1775. 3-storey (3rd storey added later) and basement: 3-window front: architraved doorpiece with cornice; Craigmillar stone with pinnings.

GEORGE SQUARE 16 AND 17 (Ref:28809) Descripción 1767. 2-plantas (2o piso un ático en forma de mansarda añadido después) y sótano: fachada de 3 ventanas: pieza de la puerta Victoriana consoled . Piedra Craigmillar con ganchos.

GEORGE SQUARE 18 (Ref:28810) Descripción 1774. 2-plantas (2º piso ático añadido posteriormente) y sótano: fachada de 3 ventanas; pieza de entrada arquitrabada con cornisa. Piedra Craigmillar con ganchos.

19 GEORGE SQUARE (Ref:47583) Descripción 1771 2-plantas (2o piso planta ático añadida posteriormente) y sótano: fachada de tres ventanas: pieza de entrada arquitrabada con cornisa. Piedra Craigmillar con ganchos.

20 GEORGE SQUARE (Ref:47584) Descripción 1775. 3-plantas (El 3r piso añadido posteriormente) y sótano: fachada de 3-ventanas: pieza de entrada arquitrabada con cornisa; piedra Craigmillar con ganchos.

Source: Historic Scotland


(88)

28 (and 29) Queen Street.
Edificio entre medianeras perteneciente a la fase de construcción de la "New Town" de tres plantas piso, sótano y ático.

Description: 1789 with later alterations. Pair of 3-storey basement and attic, 3-bay terraced classical houses. Droved Craigleith sandstone ashlar with polished dressings. Rock-faced basement; channelled rustication at ground; cill/band course at 1st floor broken by windows (perhaps lowered); fluted band course between 1st floor; swagged frieze (broken by enlarged windows at No 28), dentilled cornice and blocking course (raised to solid parapet at No 29). Regular fenestration; architraves to 1st and 2nd floors. Simple architraved doorpieces with consoled cornices to outer bays at ground; converted to window at No 28. No 29 with small decorative cast-iron balconies at 1st floor.

Notes No 28 was built for Robert Allan and No 29 seems to have been built speculatively by James Nisbet, presumably with the mason James Tait; together they were responsible for building No 28. Nisbet had bought the plot from David Stewart, a banker who had acquired it in 1779 (Stewart later bought No 8), and sold the house as soon as it was built. A significant surviving part of the original fabric of Edinburgh?s New Town, one of the most important and best preserved examples of urban planning in Britain; was built to take advantage of the northern views, and has survived remarkably unaltered to this day.

Descripción: 1789 con posteriores alteraciones. Par de 3 pisos sótano y ático, de tres vanos casas entre medianeras clásicas. Acometida con piedra Craigleith Ashlar con acabados pulidos. Sótano con fachada de roca; acanalada mampostería rustica en planta baja; con hiladas que se cortan a la altura de las ventanas en el primer piso(quizás algo más abajo); hiladas a bandas acanaladas entre el primer piso; friso decorativo (roto por agrandamiento de ventana en el n. 28), cornisa dentada e hilada de bloque(subiendo de un sólido parapeto en el n. 29). Ventanaje regular; arquitrabes en primer y segundo piso. Pieza de puerta con simple arquitrabada con cornisas sobre consola hacia los otros vanos del suelo; convertida en ventana en el n. 28. N. 29 con pequeños decorados balcones encastados en el primer piso.

Notas N. 28 fue construida por Robert Allan y N. 29 parece haber sido construido especulativamente por James Nisbet, presumiblemente con el cantero James Tait; juntos fueron responsables de la construcción del n. 28. Nisbet había comprado el plano de David Steward, un banquero que lo había adquirido en 1779 (Steward posteriormente compro el n. 8), y vendió la casa tan pronto como fue construida. Una Es una significativa parte superviviente de la New Town de Edimburgo, uno de los mejores y mejor conservados ejemplos de planeamiento urbano en Bretaña; fue construido para tener la ventaja de las vistas del norte, y ha sobrevivido inalterado hasta nuestros días.

Source: Historic Scotland

(89)

23-23a Saint Andrew Square

William Chambers, 1770-2; refaced and Telling room added by David Bryce, 1846; Free Tolbooth Church built to rear by David Bryce, 1858; internal alterations by Dick Peddie and Walker Todd, 1929, LA Jamieson, 1932. 3-storey basement and attic, 5-bay Italian Renaissance terraced office. Polished cream sandstone ashlar. Regular fenestration, moulded architraves. At ground, open pedimented Ionic porch to inner right bay; flanked by further doors; windows to 2 left bays with bracketed cills and panelled aprons. At 1st floor, consoled ashlar balcony and balustrade; windows with consoled pediments. Cill course at 2nd floor. Modillioned cornice and balustraded parapet, largely concealing pair of early bowed dormers.

William Chambers, 1770-2; rehabilitada y añadida una habitación por David Bryce, 1846; Iglesia libre de Tolbooth construida en la parte de atrás por David Bryce, 1858; alteraciones internas por Dick Peddie y Walked Todd, 1929, LA Jamieson, 1932. £ plantas sotano y atico, 5 banos, de renacimiento Italiano oficina entre medianeras. Piedra ashlar de color crema pulida. Ventanas regulares, arquitraves con molduras. En planta baja Porche sobre columnas de orden jonico en el vano derecho; flanqueado por puertas; ventanas en los vanos que quedan con celdas ligadas y paneladas. En el primer piso un balcón con consola de piedra ashlar y balustrada; ventanas con antepecho en consola. Hilada ligada en el segundo piso. Cornisa con moldura y parapeto en balustrada conteniendo un para de arcos durmientes.

This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

References:
Ainslie's Map of 1780. BUILDING CHRONICLE August 1856, March 1857. BUILDER 27 May 1876. Gifford, McWilliam and Walker EDINBURGH (1988) pp323-4. A J Youngson THE MAKING OF CLASSICAL EDINBURGH (1966) pp72-92. Valerie Fiddes and Alistair Rowan MR DAVID BRYCE 1803-1876 (1976) pp94,109. Dean of Guild plans 25 June, 5 August 1846. NLS MS4078.

Notes:
Built with Nos 23-26 by 'the joint purses of Sir John Whitefoord, Sir Robert Murray and Gilbert Meason'. Chambers designed Meason's house at No 26, so presumably the others as well. Transformed by Bryce for the Exchange Bank of Scotland; originally with 2 doors, the 3rd being added to provide access to the Free Tolbooth Church. A Group with Nos 21-26 St Andrew Square as part of Edinburgh's New Town, one of the most important and best preserved examples of urban planning in Britain.

c) Mansiones

<table>
<tr><td> 

(90)</td><td>Inverleith House, casa sita dentro del complejo de los “botanical gardens” actualmente es un museo, la casa original tiene tres pisos planta sótano y ático.</td></tr>
<tr><td>David Henderson 1774. 3-storey attics, and basement, rubble with dressed quoins. 2-storey north pavilions linked to house by diagonal screen walls. North side has semi-elliptical
projection containing staircase, later porch, alterations W W Robertson 1877 and again recently.</td><td>David Henderson 1774. 3 pisos y ático y sótano, rustico con esquinas vestidas. Pabellones de 2 pisos de la parte norte lindan con la casa por unas pantallas en diagonal. La parte norte tienen una proyección semielíptica que contiene la escalera, un porche posterior, modificaciones por WW Robertson en 1877 y de nuevo recientemente.</td></tr>
<tr><td colspan="2">This text is a legacy record and has not been updated since the building was originally listed. Details of the building may have changed in the intervening time. You should not rely on this listing as an accurate description of the building.

References:
Inv 172;
MacRae Her p.35;
"Decreet of Jas Rocheid", anent Imp on Inverleith 1774;
plans SRO

Notes:
Source: Historic Scotland
.</td></tr>
</table>

(91)

Dalkeith Palace, casa de tres plantas con sótano y ático. En realidad primero había sido un Castillo que se modificó siguiendo la moda de principios de siglo.

Site previously occupied by Dalkeith castle, James Smith found the site already occupied by a courtyard-plan house, parts of which his client wished to retain in the interest of the economy.

The outer, or southeast, side of the old inner quadrangle was removed, but the other three sides by the erection of a large part retained their irregularities being masked on the courtyard side by the erection of a central frontispiece flanked by new screen walls and pavilions. The obliquely-aligned shell of the L-plan tower-house that formed the nucleus of the medieval castle can be identified on the southwest side.

The facework on the centrepiece is of polished ashlar, which in the original arrangement would probably have been set off by harled wall-surfaces elsewhere. The stone was brought from sandstone quarries in the Queensferry area. The ranking cornices of the pediment intersect the horizontal cornice a short distance from its end. The pediment has an unusually deep projection and investigations carried out during recent repairs showed that Smith used highly skilled techniques of masonry construction to achieve the necessary stability.

As the courtyard elevations show, Smith was equally adept at camouflaging traces of the early castle. Here on the southwest side of the house, overlooking a service area, however, no attempt was made to disguise the irregular alighnment of the old outside wall of the medieval tower-hose. The tall windows to the left light the great staircase. The contract for mason work was signed in March 1702, Smith's cousins, James and Gilbert, being co-partners with him. Work proceed rapidily and the main fabric of the hose was roofed and slated by the autumn of 1705.

Obra previamente ocupada por el Castillo de Dalkeith , James Smith encontró el lugar ocupado por una casa en forma de patio, partes de la cual su cliente deseaba mantener por interés económico.

En la parte exterior, el lado sudeste, cuadrado antiguo interno fue eliminado, pero los otros tres lados por medio de la construcción de una gran parte manteniendo sus irregularidades enmascaradas en el lado del patio por la elevación de un frontispicio central flanqueado por nuevas paredes pantalla y pabellones. La alineación oblicua escuda de la planta en L casa torre que forman el núcleo del Castillo medieval y puede ser identificado como el lado sudeste.

El trabajo de fachada en la pieza central es de piedra ashlar pulida, la cual en el arreglo original probablemente se hubiera colocado en caras harled en algún otro lugar . La piedra fue traída de la cantera de piedra arenisca en el área de Queensferry. Las cornisas en rankine del pedimento con la intersección de la cornisa horizontal a corta distancia del final. El pedimento tiene una inusual profunda proyección y las investigaciones durante las recientes reparaciones muestran que Smith uso técnicas de gran pericia de cantería en construcción para conseguir la suficiente estabilidad.

Como se muestra en las fachadas del patio, Smith es adepto a camuflar los restos del antiguo castillo. Aquí en la parte sur de la casa se puede observar un área de servicio, en cualquier caso ningún intento de disimular el alineamiento irregular de la antigua parte de la pared de la torre medieval. Esa ventana alta en la izquierda ilumina la escalera. El contrato para el trabajo se firmó en marzo de 1702, El trabajo se realizó rápidamente y la principal construcción de la casa se techó y cubrió en otoño de 1705.

Source: Minerva's Flame: the great houses of James Smith of Whitehill (c.1645-1731) Surveyor of the Royal Works (the catalogue of an exhibition organised to celebrate the 350th anniversary of the architects birth. Dalkeith Palace 3rd of July to 6th of August 1995. James smith Anniversary Committee, Dalkeith 1995.

4. Parámetros encontrados en los edificios objeto.

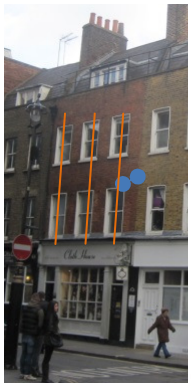
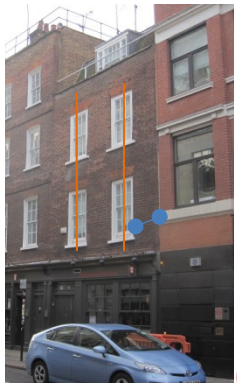
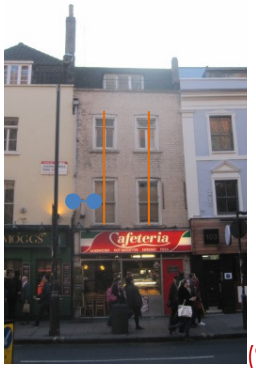
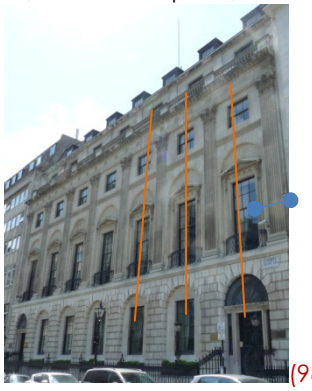
a) . Parámetros externos.

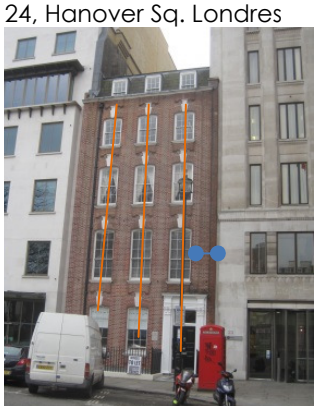
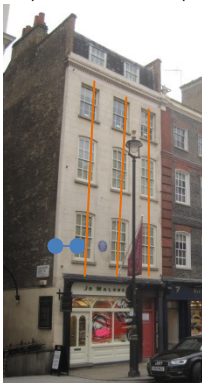
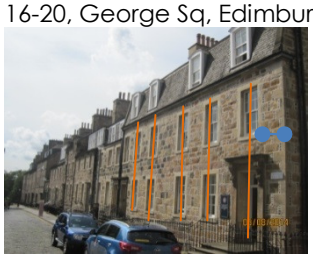
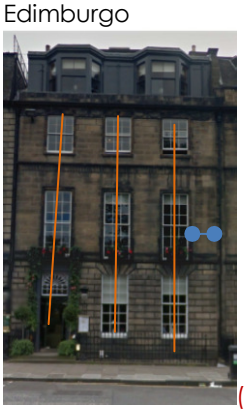
Fachada exterior

(a) Pared-ventana.

SEGÚN TRATADOS

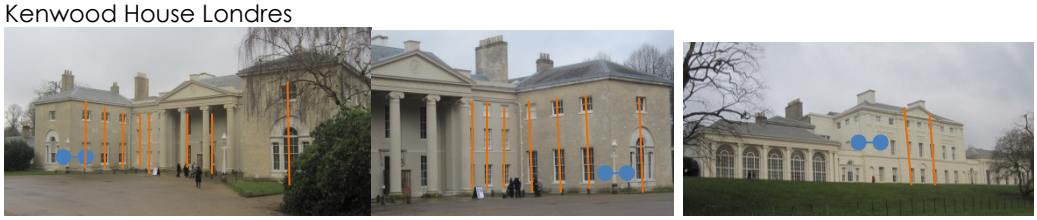
- Pocas ventanas en número y de dimensiones moderadas (1)
- Situación de las ventanas alejada del ángulo del muro (2)
- Hueco sobre hueco/ macizo sobre macizo (3)
- Simetría de lo que hay a la derecha de la pared con lo que hay a la izquierda (4)
- Ornamentos en ventanas que no perjudique estructura y no gravoso constructor (5)
- En caso de ventanas grandes: arcos de descarga (6)

<table>
<tr><td colspan="4">Pocas ventanas en número y de dimensiones moderadas, alejadas ángulo muro/ hueco sobre hueco, macizo sobre macizo/ Simetría</td></tr>
<tr><td rowspan="2">Viviendas entre medianeras</td><td>47, Berwick Street, Londres
 
(92)
6 ventanas/ espacio entre ellas > ½ ancho ventana/ conserva simetría</td><td>15, George's Street, Londres
 
(93)
14 ventanas/ espacio entre ellas > ½ ancho ventana/ tiene simetría</td><td>165, Wardour Street, Londres
 
(94)
4 ventanas/ espacio entre ellas > ½ ancho ventana/ simétrica</td></tr>
<tr><td>101, Charing Cross road, Londres
 
(95)
4 ventanas /espacio entre ellas > ½ ancho ventana/ simétrica</td><td>20, St James Square, Londres
 
(96)
8 ventanas/ espacio entre ellas >1/2 ancho ventana/ mantiene simetría huecos</td><td>25, Harley Street, Londres
 
(97)
9 ventanas/ espacio entre ellas > ½ ancho ventana/ mantiene simetría excepto planta baja.</td></tr>
</table>

Viviendas entre medianeras	24, Hanover Sq. Londres  (98) 11 ventanas /espacio entre ellas > ½ ancho ventana/ mantiene simetría de huecos.	23, Brook Street, Londres  (99) 9 ventanas /espacio entre ellas > ½ ancho ventana/ mantiene simetría excepto en planta baja	25, Brook Street, Londres  (100) 9 ventanas /espacio entre ellas > ½ ancho ventana/ mantiene simetría excepto en planta baja
	3, Cavendish Sq., Londres  (101) 15 ventanas /espacio entre ellas > ½ ancho ventana/ mantiene simetría de huecos	7-13, Buccleuch St, Edinburgo  (102) Espacio entre ventanas > ½ ancho ventana/ mantiene simetría huecos	15, West Crosscauseway St Edimburgo  (103) Espacio entre ellas > ½ ancho ventana/ no hay simetría
	16-20, George Sq, Edimburgo  (104) Espacio entre ventanas > ½ ancho ventana/ se mantiene simetría de huecos	28 Queen Street, Edimburgo  (105) Espacio entre ventanas > ½ ancho ventana mantiene simetría de huecos	23-23a Saint Andrew Sq Edimburgo  (106) Espacio entre ventanas > ½ ancho ventana/ mantiene simetría de huecos

Mansiones

Kenwood House Londres



(107)
Espacio entre ventanas > ½ ancho ventana/ a pesar de que no se puede apreciar en la foto fachada simétrica.

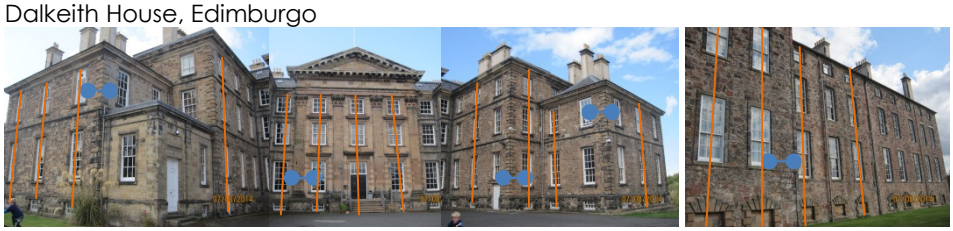
Somerset House, Londres

(108)
Espacio entre ventanas > ½ ancho ventana

Inverleith House, Edimburgo

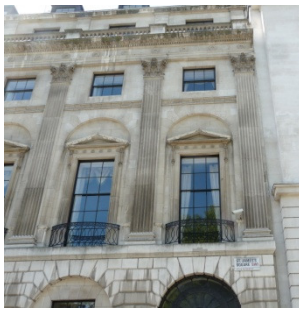
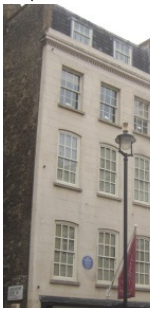
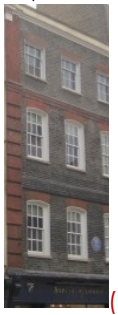
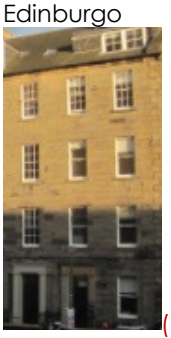
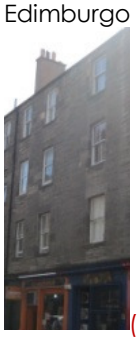
(109)
Espacio entre ventanas > ½ ancho ventana, se observa la simetría de la fachada.

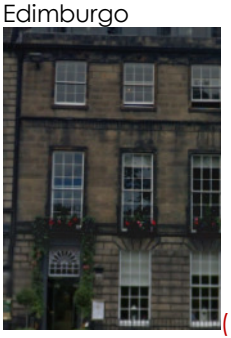
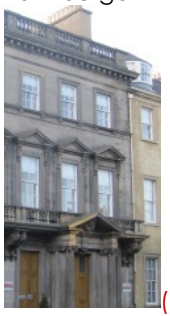
Dalkeith House, Edimburgo

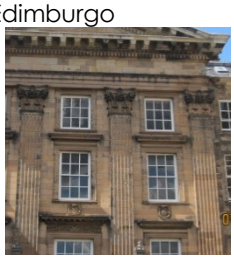


(110)
Espacio entre ventanas > ½ ancho ventana

Las dos primeras normas se cumplen en todos los casos, pero la norma hueco sobre hueco macizo sobre macizo, tiene varias excepciones: por un lado, todas las plantas bajas londinenses que han sido modificadas para ejercer de tiendas; el ejemplo del 25, de Harley Street, que no cumple, la puerta es del siglo XIX posterior al resto del edificio, es posible que la ensancharan por mejorar la distribución interior; y por último, la fachada lateral de Inverleith House en Edimburgo, que probablemente iluminaria alguna escalera que ahora no existe.

Ornamentos en ventanas que no perjudique estructura y no gravoso constructor,			
Viviendas entre medianeras	47, Berwick Street, Londres  (111) Ventanas sin decoración	15, George's Street, Londres  (112) Decoración estudiada	165, Wardour Street, Londres  (113) Ventanas sin decoración
	101, Charing Cross road, Londres  (114) Ventanas sin decoración	20, St James Square, Londres  (115) Decoración estudiada	25, Harley Street, Londres  (116) Decoracion sencilla
	24, Hanover Sq. Londres  (117) Decoración sencilla	23, Brook Street, Londres  (118) Sin decoración	25, Brook Street, Londres  (119) Decoración sencilla
	3, Cavendish Sq. Londres  (120) Decoración adecuada	7-13, Buccleuch St, Edinburgo  (121) Sin decoración	15, West Crosscauseway St Edimburgo  (122) Sin decoración

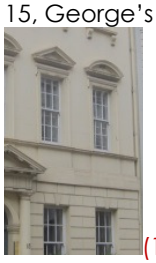
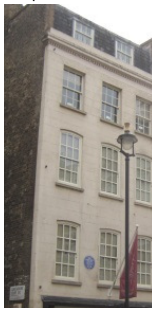
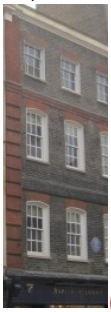
Viviendas entre medianeras	16-20, George Sq, Edimburgo  (123) Decoración mínima	28 Queen Street, Edimburgo  (124) Decoración mínima	23-23a Saint Andrew Sq Edimburgo  (125) Decoración en planta baja y primera

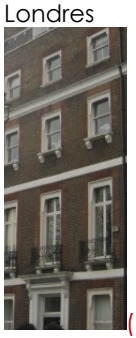
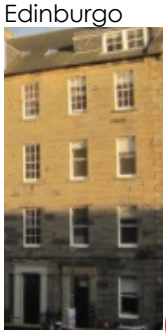
Mansiones	Kenwood House Londres    (126) Decoración ligera
	Somerset House, Londres     (127) Dependiendo del lugar hay más o menos decoraciones, no exageradas.
	Inverleith House, Edimburgo     (128) Ventanas casi sin decoración
	Dalkeith House, Edimburgo    (129) Solo decoración en la fachada principal

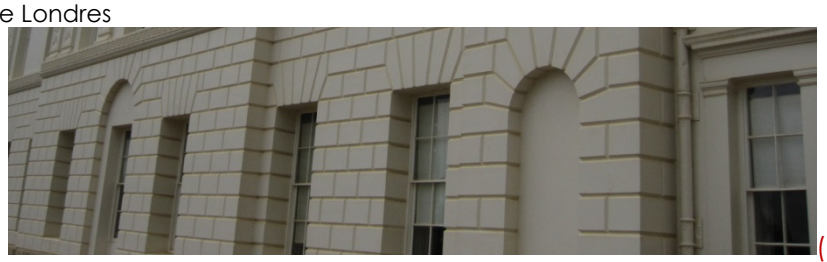
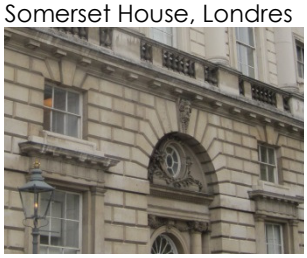
Las decoraciones en las ventanas son prácticamente inexistentes en los edificios más sencillos, en el £ de Cavendish Square se observa un balconcillo en las ventanas de la planta primera, es de principios del XIX, es posible que pasara lo mismo en el 20 de Saint James Square, pero no se ha encontrado ninguna nota al respecto.

Las mansiones, con la excepción de Somerset House, presentan la mayor decoración en la parte de fachada principal que contiene la puerta de entrada.

Es curioso constatar que los dos edificios diseñados por Sir William Chambers: Somerset House y el 23 de Saint Andrews Square tienen algunas similitudes en las decoraciones de la fachada.

<table>
<tr><td colspan="4">En caso de ventanas grandes: arcos de descarga</td></tr>
<tr><td rowspan="3">Viviendas entre medianeras</td><td>47, Berwick Street, Londres
 
(130)
Arco plano</td><td>15, George's Street, Londres
 
(131)
Hay decoraciones que pueden esconder arcos</td><td>165, Wardour Street, Londres
 
(132)
Arcos en ventanas</td></tr>
<tr><td>101, Charing Cross Rd, Londres
 
(133)
Arco de descarga</td><td>20, St James Square, Londres
 
(134)
Arcos en planta baja y planta primera</td><td>25, Harley Street, Londres
 
(135)
Arcos en planta baja</td></tr>
<tr><td>24, Hanover Sq. Londres
 
(136)
Arcos de descarga</td><td>23, Brook Street, Londres
 
(137)
Arcos en planta primera y segunda</td><td>25, Brook Street, Londres
 
(138)
Arcos de descarga</td></tr>
</table>

<table>
<tr><td rowspan="2">Viviendas entre medianeras</td><td>3, Cavendish Square
Londres
 
(139)
Sin arcos de descarga</td><td>7-13, Buccleuch St,
Edinburgo
 
(140)
Sin arcos de descarga</td><td>15, West Crosscauseway St
Edimburgo
 
(141)
Sin arcos de descarga</td></tr>
<tr><td>16-20, George Sq,
Edimburgo
 
(142)
Ventanas pequeñas no hay arcos de descarga</td><td>28 Queen Street,
Edimburgo
 
(143)
Arcos en planta baja</td><td>23-23a Saint Andrew Sq
Edimburgo
 
(144)
No arcos de descarga</td></tr>
</table>

<table>
<tr><td rowspan="3">Mansiones</td><td>Kenwood House Londres
 
 
(145)
Arcos en planta baja</td></tr>
<tr><td>Somerset House, Londres
 
 
(146)
Arcos en la planta baja</td></tr>
<tr><td>Inverleith House, Edimburgo
 
 
(147)
Ventanas no muy grandes</td></tr>
</table>

	Dalkeith House, Edimburgo  (148) Arcos en planta sótano y baja

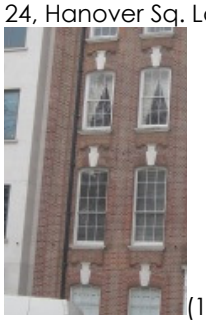
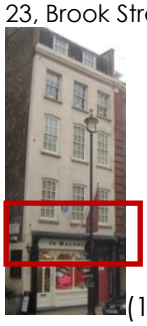
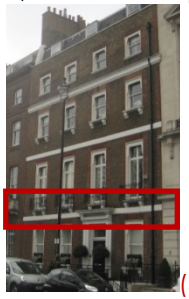
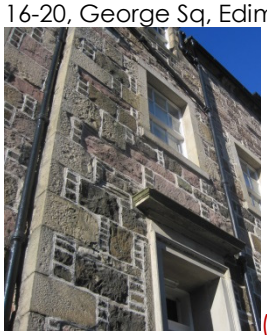
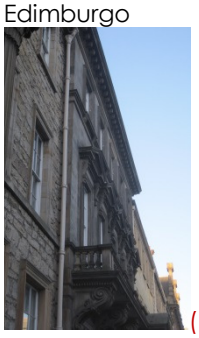
En algunos casos estos arcos son muy evidentes sobretodo en plantas bajas originales.

Sobre las ventanas es más complicado verlo, debido, en algunos casos a la decoración, en otros casos a que los estucos esconden si el arco existió o no.

(b) Pared.

SEGÚN TRATADOS
- A continuación del cimiento
- Ángulos Fuertes.
- Disminución de la pared a medida que sube, utilización de "fascias".

<table>
<tr><td colspan="4">Ángulos fuertes / Fascia</td></tr>
<tr><td rowspan="2">Viviendas entre medianeras</td><td>47, Berwick Street, Londres
  (149)
No refuerzo/fascia entre PB y P1</td><td>15, George's Street, Londres
  (150)
No refuerzo/ fascia entre PB y P1</td><td>165, Wardour Street, Londres
  (151)
No refuerzo/ fascia entre PB y P1</td></tr>
<tr><td>101, Charing Cross, Lond
 
(152)
No refuerzo/No fascia</td><td>20, St James Sq., Londres
 
(153)
No refuerzo/ fascia entre Pb y P1 y P1 y P2</td><td>25, Harley Street, Londres
  (154)
No refuerzo/ fascia entre PB y P1</td></tr>
</table>

Viviendas entre medianeras	24, Hanover Sq. Londres  (155) Refuerzo ángulos/no fascia	23, Brook Street, Londres  (156) No refuerzo/ fascia PB-P1	25, Brook Street, Londres  (157) Refuerzo/ fascias en todas las plantas
	3, Cavendish Square Londres  (158) No refuerzo/fascias todos los pisos	7-13, Buccleuch St, Edinburgo  (159) Refuerzos ángulos	15, West Crosscauseway St Edimburgo  (160) Refuerzo en ángulo/fascia PB-P1
	16-20, George Sq, Edimburgo  (161) Refuerzo en ángulo/ no fascia	28 Queen Street, Edimburgo  (162) No refuerzo angulo, si fascias entre PB y P1 y P1 y P2	23-23a Saint Andrew Sq Edimburgo  (163) Refuerzo/ fascias en todos los pisos

Mansiones	Kenwood House Londres  (164) No se ve especial refuerzo ángulos/ fascias en fachada posterior

Somerset House, Londres




(165)

No refuerzo ángulos/ fascias entre PB-P1 y P2 y ático

Inverleith House, Edimburgo



(166)

Refuerzo ángulos fachada posterior/ fascia entre sótano y PB

Dalkeith House, Edimburgo




(167)

Refuerzo ángulos/ fascia en todos los pisos

En edificios entre medianeras, no es muy habitual ver refuerzos de ángulos, porque la fachada apoya en otra fachada, pero las ventanas mantienen cierta distancia con la medianera.

En algunos casos el retranqueo que provoca la fascia, es evidente, en otros quizás no tanto, se podría solucionar entrando y calculando los grosores de las paredes en todos los pisos, pero eso es ha sido casi imposible en la mayoría de los casos.

(c) Ventanas:

SEGÚN TRATADOS

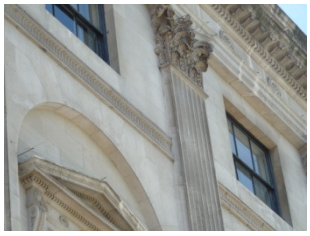
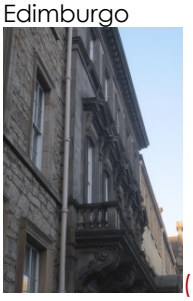
- Cornisa grande para la protección de los que estén bajo ellas, y si es muy grande soportada por dos consolas.
- El retraso del marco es aprovechado para la colocación de cornisa
- Según Leoni, la anchura se mantiene todo lo alto del edificio; la altura en planta 1 es la altura de la habitación menos 1/3; en planta 2 es igual que la de abajo menos ¼ de la misma.

SEGÚN NORMATIVAS LONDRES/WESTMINSTER:

- Ventanas retiradas de la cara de la pared 4 pulgadas; bajo pago de 3 meses de prisión sin fianza (statute 7th of Queen Anne)
- Colocar fábrica de ladrillo alrededor de las ventanas, y sobretodo realizar arcos de descarga en las zonas de tiendas particularmente (11th of King George I)planta 2 es igual que la de abajo menos ¼ de la misma.

SEGÚN NORMATIVA EDIMBURGO (ver anexo…):

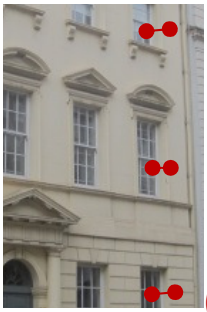
- La anchura del espacio entre la línea de fachada y la ventana ha de ser de doce a catorce pulgadas.

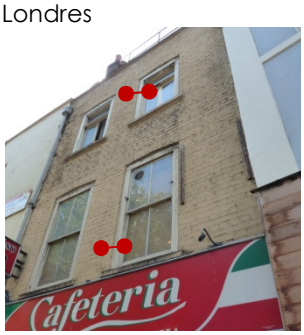
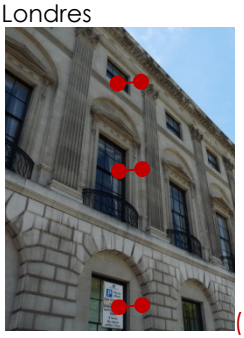
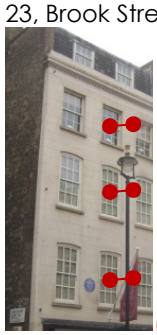
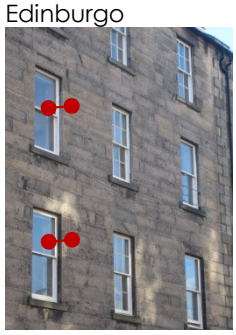
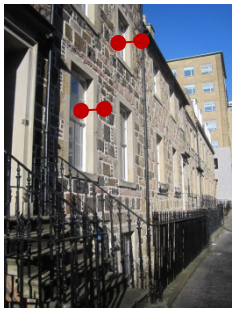
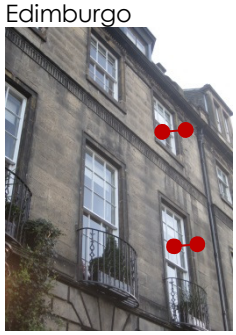
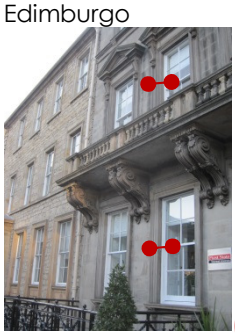
<table>
<tr><td colspan="4">Cornisa grande para la protección de los que estén bajo ellas, y si es muy grande soportada por dos consolas.
- En los edificios sencillos no se dan estas decoraciones.</td></tr>
<tr><td rowspan="2">Viviendas entre medianeras</td><td>15, George's Street, Londres
 
(168)</td><td>20, Saint James's Sq, Londres
 
(169)</td><td>3, Cavendish Square Londres
  (170)</td></tr>
<tr><td>16-20, George Sq, Edimburgo
  (171)</td><td>23-23a Saint Andrew Sq Edimburgo
  (172)</td><td></td></tr>
</table>

Mansiones	Somerset House, Londres  (173)
	Inverleith House, Edimburgo  (174)
	Dalkeith House, Edimburgo  (175)

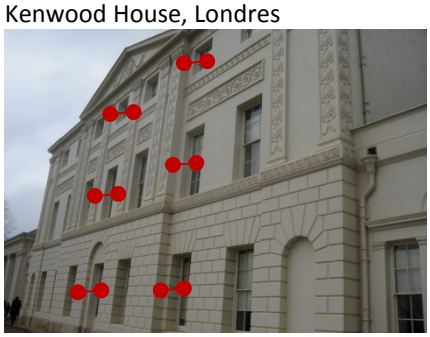
Se observa que esta protección de las ventanas se realiza sólo en las viviendas que parecen tener cierta categoría y en algunos casos, solo en la puerta principal; esto último se puede deber a temas meteorológicos, tener donde guarecerse mientras se espera que lo atiendan.

El retraso del marco es aprovechado para la colocación de cornisa
Ventanas retiradas de la cara de la pared 4 pulgadas; bajo pago de 3 meses de prisión sin fianza (statute 7th of Queen Anne) (LONDON ACT)
La anchura del espacio entre la línea de fachada y la ventana ha de ser de doce a catorce pulgadas.(EDINBURGH REGULATION)

Viviendas entre medianeras	47, Berwick Street, Londres  (176)	15, George's Street, Londres  (177)	165, Wardour Street, Londres  (178)

Viviendas entre medianeras	101, Charing Cross road, Londres  (179)	20, St James Square, Londres  (180)	25, Harley Street, Londres  (181)
	24, Hanover Sq. Londres  (182)	23, Brook Street, Londres  (183)	25, Brook Street, Londres  (185)
	3, Cavendish Square Londres  (186)	7-13, Buccleuch St, Edinburgo  (187)	15, West Crosscauseway St Edimburgo  (188)
	16-20, George Sq, Edimburgo  (189)	28 Queen Street, Edimburgo  (190)	23-23a Saint Andrew Sq Edimburgo  (191)

Kenwood House, Londres



(192)

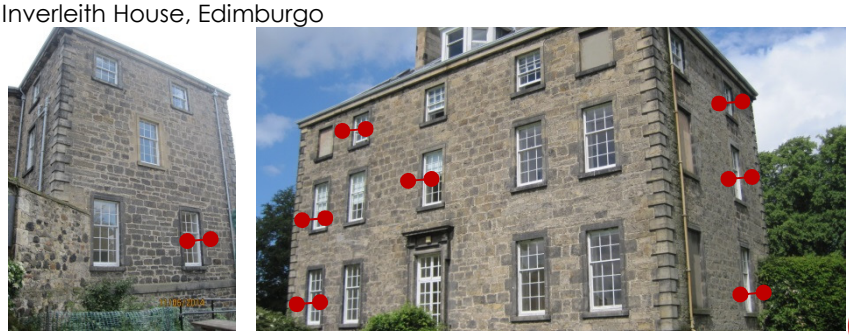
Espacio entre ventanas > ½ ancho ventana

Somerset House, Londres

(193)

Espacio entre ventanas > ½ ancho ventana

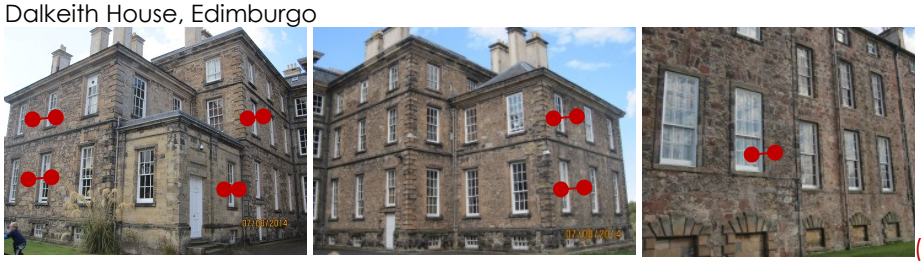
Inverleith House, Edimburgo



(194)

Espacio entre ventanas > ½ ancho ventana

Dalkeith House, Edimburgo



(195)

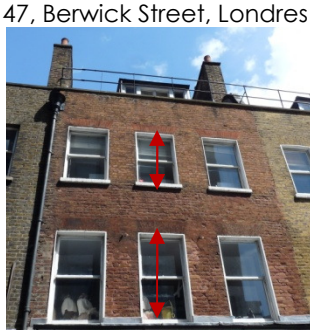
Espacio entre ventanas > ½ ancho ventana

Desafortunadamente, a pesar de los intentos, no siempre resulta fácil destacar este aspecto en las fotos, pero todas las ventanas están retiradas de las fachadas, realmente es un aspecto contemplado en todos los tratados.

Según Leoni, la anchura se mantiene todo lo alto del edificio; la altura en planta 1 es la altura de la habitación menos 1/3; en planta 2 es igual que la de abajo menos ¼ de la misma.

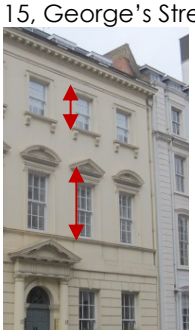
Viviendas entre medianeras

47, Berwick Street, Londres



(196)

15, George's Street, Londres

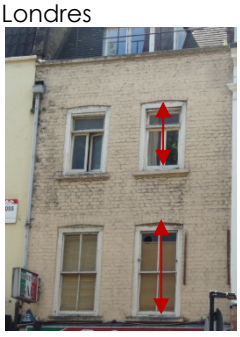


(197)

165, Wardour Street, Londres

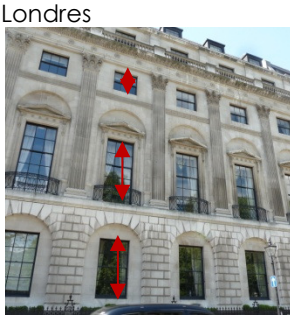
(198)

101, Charing Cross road, Londres



(199)

20, St James Square, Londres



(200)

25, Harley Street, Londres

(201)

24, Hanover Sq. Londres

(202)

23, Brook Street, Londres

(203)

25, Brook Street, Londres

(204)

3, Cavendish Square Londres

(205)

7-13, Buccleuch St, Edinburgo

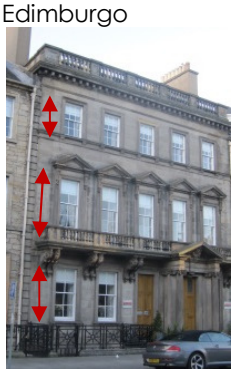
(206)

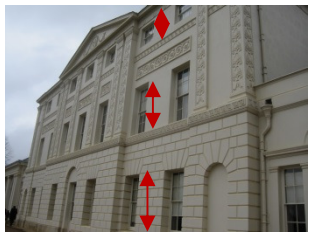
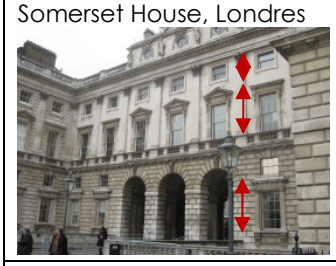
No hay diferencia tamaño

15, West Crosscauseway St Edimburgo

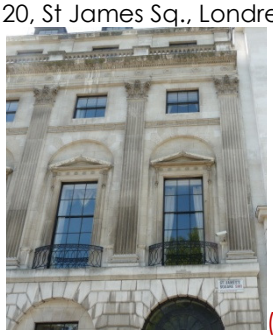
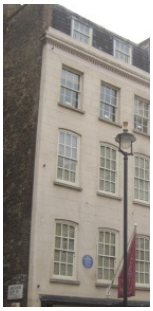
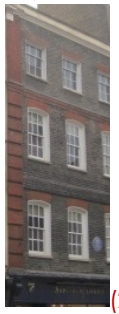
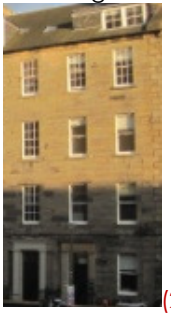
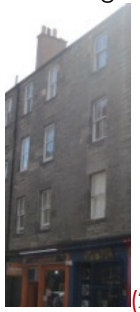
(207)

No hay diferencia tamaño

Viviendas entre medianeras	16-20, George Sq, Edimburgo  (208)	28 Queen Street, Edimburgo  (209)	23-23a Saint Andrew Sq Edimburgo  (210)

Mansiones	Kenwood House Londres   (211)
	Somerset House, Londres  (212)
	Inverleith House, Edimburgo   (213)
	Dalkeith House, Edimburgo  (214)

En Edimburgo la diferencia de tamaño entre ventanas, dependiendo planta se da en viviendas unifamiliares, más que en edificios de viviendas para alquilar. También se ha comprobado que en algunas casas entre medianeras nobles, la ventana más alta está en el segundo piso en lugar de en la primera.

<table>
<tr><td colspan="4">Colocar fábrica de ladrillo alrededor de las ventanas, y sobretodo realizar arcos de descarga en las zonas de tiendas particularmente (11th of King George I)planta 2 es igual que la de abajo menos ¼ de la misma.</td></tr>
<tr><td rowspan="4">Viviendas entre medianeras</td><td>47, Berwick Street, Londres
 
(215)</td><td>15, George's Street, Londres
 
(216)</td><td>165, Wardour Street, Londres
 
(217)</td></tr>
<tr><td>101, Charing Cross road, Londres
 
(218)</td><td>20, St James Sq., Londres
 
(219)</td><td>25, Harley Street, Londres
 
(220)</td></tr>
<tr><td>24, Hanover Sq. Londres
 
(221)</td><td>23, Brook Street, Londres
 
(222)</td><td>25, Brook Street, Londres
 
(223)</td></tr>
<tr><td>3, Cavendish Sq. Londres
 
(224)</td><td>7-13, Buccleuch St, Edinburgo
 
(225)</td><td>15, West Crosscauseway St Edimburgo
 
(226)</td></tr>
</table>

Viviendas entre medianeras	16-20, George Sq, Edimburgo  (227)	28 Queen Street, Edimburgo  (228)	23-23a Saint Andrew Sq Edimburgo  (229)

Mansiones	Kenwood House Londres  (230)
	Somerset House, Londres  (231)
	Inverleith House, Edimburgo  (232)
	Dalkeith House, Edimburgo  (233)

En el caso de Edimburgo, en lugar de fábrica de ladrillo hay piedra. Lo de los arcos de descarga ya se observó, en los casos en que existía en el apartado de muro.

(d) Chimenea

SEGÚN TRATADOS

- Las partes altas de la chimenea no han de estar ni en un llano, ni en lo alto de una colina.
- Evitar fustes de chimeneas muy altos y grandes, pueden provocar accidentes debido a los vientos, 2 pies de altura por encima de la cumbrera (Gerbier)
- Parte alta de la chimenea no ha de estar obstruida por nada.
- Recomendación de colocar un sombrerete para evitar la entrada de agua, que apague el fuego.

SEGÚN NORMATIVAS LONDRES/WESTMINSTER

- Chimeneas construida espalda contra espalda en medianeras
  - En primer ratio: 1 ladrillo grosor en sótanos y medio en el resto de pisos
  - En segundo, tercer y cuarto grado: ¾ de ladrillo de grosor en el sótano y medio en el resto.
- Chimenea en medianera no espalda contra espalda:
  - Desde la parte exterior de la medianera a la cara un ladrillo y medio de grosor.
- Partes de atrás no sitas en medianeras
  - En primer ratio: mínimo ladrillo y medio de grosor en sótano y ladrillo de grosor en el resto de plantas desde el hogar, y 12 pulgadas desde la repisa
  - En el resto de ratios: un ladrillo de grosor desde el hogar, 12 pulgadas desde la repisa
- No se han de hacer cámara de humos en la parte de afuera de ningún edificio de la primera, segunda, tercera o cuarta categoría, cercana a la calle, plaza, court, carretera o camino.
    - Ninguna cámara de humos de hojalata, cobre, hierro u otra tubería que transporte humo o vapor, se ha de fijar cerca de una calle, plaza, court o camino públicos en ninguna de las categorías, y ninguno de esos tubos ha estar a menos de 14 pulgadas de cualquier madera o material combustible.

SEGÚN NORMATIVA DE EDIMBURGO

- Y los fustes de chimenea que contienen chimeneas en ambos lados, han de tener un pie de grosor entre espalda y espalda de chimenea, y que todos los puentes entre salidas de humo han de tener 3 pulgadas de separación entre ellos.

Evitar fustes de chimeneas muy altos y grandes, pueden provocar accidentes debido a los vientos, 2 pies de altura por encima de la cumbrera (Gerbier)
Parte alta de la chimenea no ha de estar obstruida por nada.
Recomendación de colocar un sombrerete para evitar la entrada de agua, que apague el fuego.
Chimeneas construida espalda contra espalda en medianeras

Viviendas entre medianeras

47, Berwick Street, Londres

(234)
Fustes no muy altos, en medianera/ Parte alta no obstruida

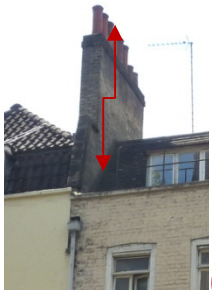
15, George's Street, Londres

(235)
No se ve la chimenea

165, Wardour Street, Londres

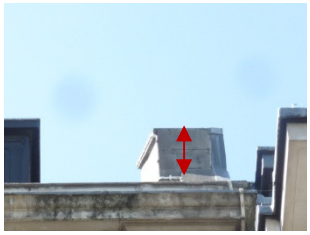
(236)
Chimenea en medianera por encima edificio adyacente

101, Charing Cross road, Londres



(237)
Chimenea en medianera por encima obstáculos

20, St James Square, Londres

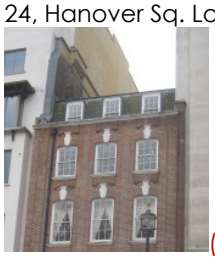


(238)
Chimenea retrasada en medianera.

25, Harley Street, Londres

(239)
Chimenea en la medianera

24, Hanover Sq. Londres



(240)
No se ve la chimenea

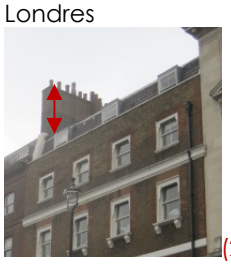
23, Brook Street, Londres

(241)
Chimenea en medianera

25, Brook Street, Londres

(242)
Chimenea en medianera

3, Cavendish Square Londres



(243)
Chimenea en medianera, suficientemente alta

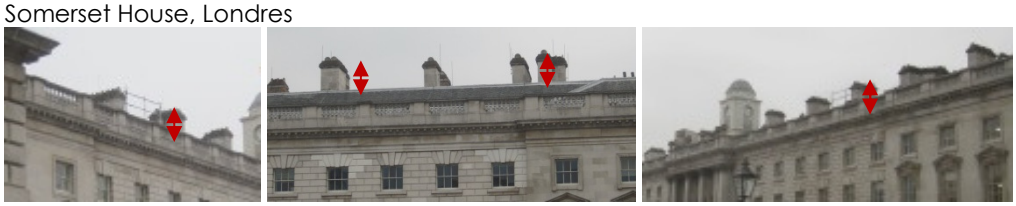
7-13, Buccleuch St, Edinburgo

(244)
Chimeneas en medianera, suficientemente altas

15, West Crosscauseway St Edimburgo

(245)
Chimenea en medianera suficientemente alta

Viviendas entre medianeras	16-20, George Sq, Edimburgo  (246) Chimeneas en medianera	28 Queen Street, Edimburgo  (247) Chimenea en medianera	23-23a Saint Andrew Sq Edimburgo  (248) Chimeneas en medianera

Mansiones	Kenwood House Londres  (249) Chimeneas lo suficientemente altas, han de sobrepasar la cumbrera
	Somerset House, Londres  (250) Chimeneas algo más bajas, pero estamos a nivel de rio, posiblemente suficientes.
	Inverleith House, Edimburgo  (251) Por encima de la cumbrera, no demasiado altas, casa sita en una colina
	Dalkeith House, Edimburgo  (252) Todas las chimeneas a altura, protegidas, siempre por encima de la cumbrera.

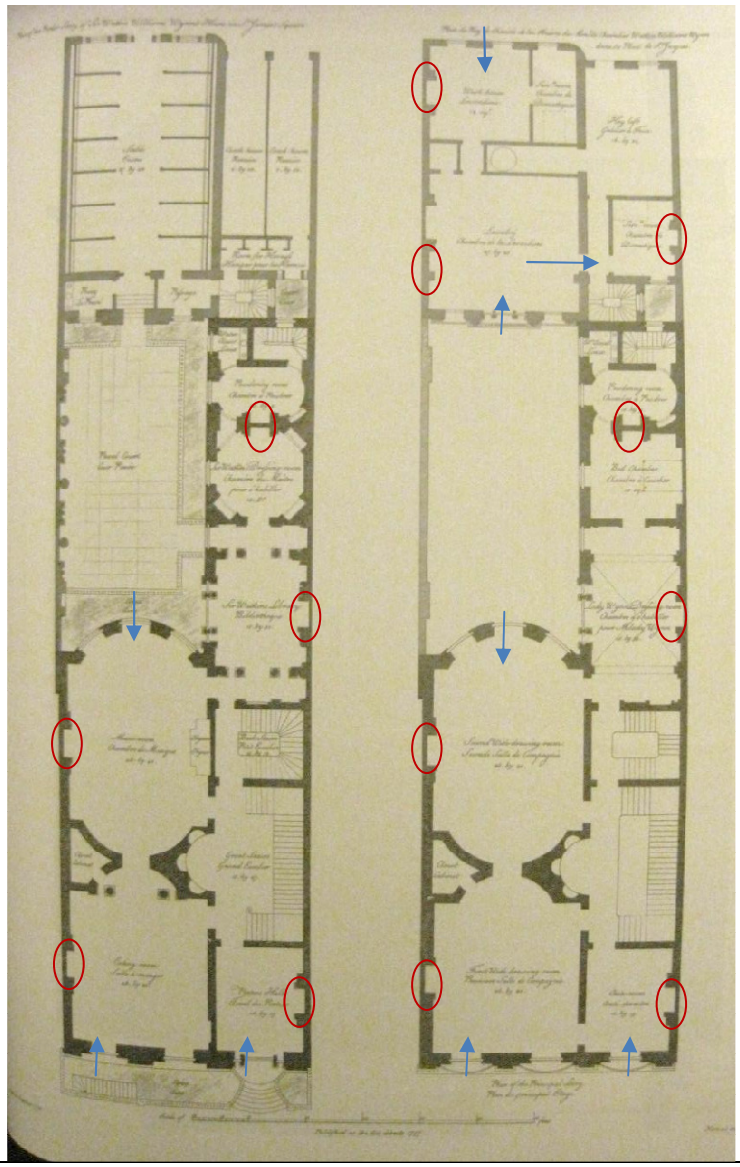
En los casos en que los fustes de chimenea son visibles, podemos ver que están alejados de la línea de fachada, en las medianeras en el caso de las viviendas entre medianeras y que intentan no quedar obstruidos; de hecho en mansiones quedan todos a la misma altura, para no obstruirse unos a otros.

b) Parámetros internos

Estos parámetros solo se han podido observar en algunos ejemplos y en las mansiones.

(a) Ventana-chimenea.

- Situación de ventana no incómoda para la chimenea, de cara a los vientos.
- No se aconseja chimenea en la pared de la ventana (demasiada decoración en la misma parte de la habitación).

Viviendas entre medianeras	20, Saint James Sq, Londres 

Viviendas entre medianeras

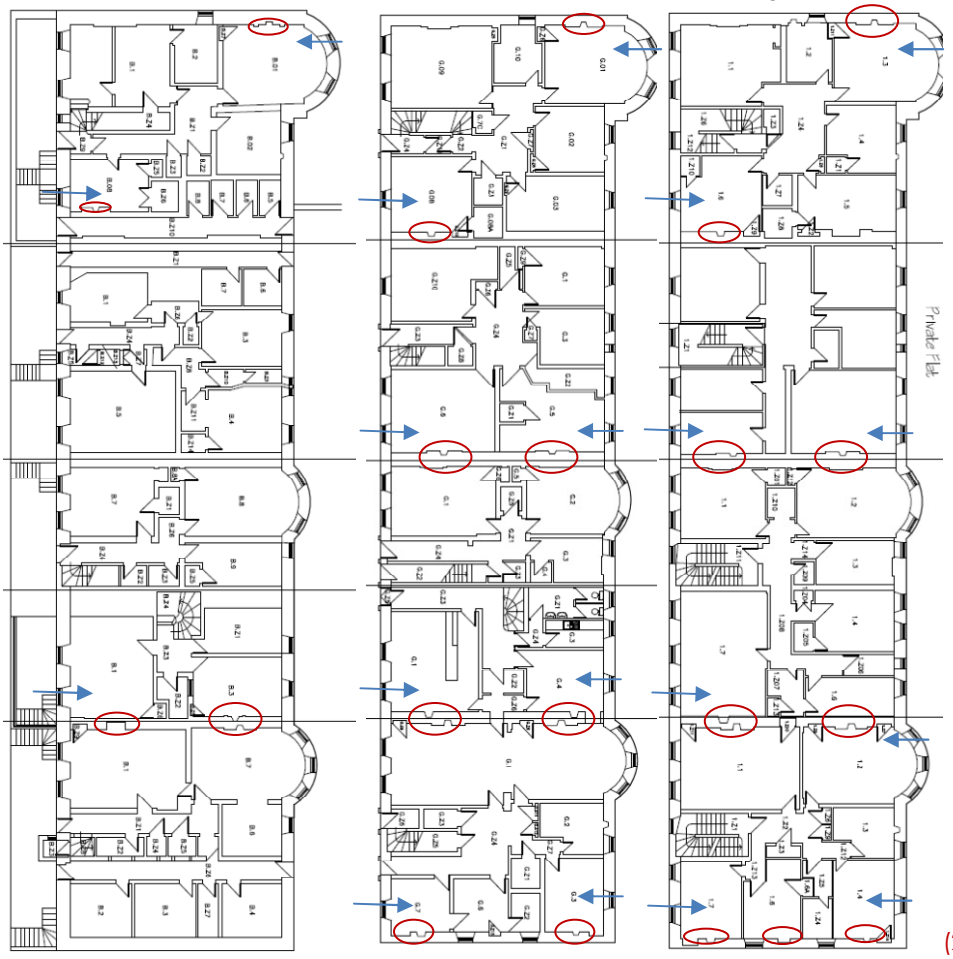
7-13, Buccleuch St, Edinburgo

(254)

Planta baja

Planta primera

Planta segunda



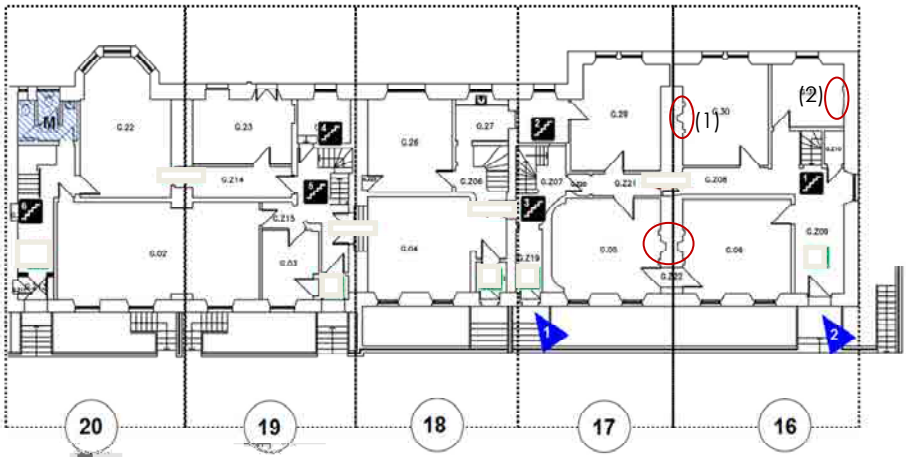
(255)

Viviendas entre medianeras

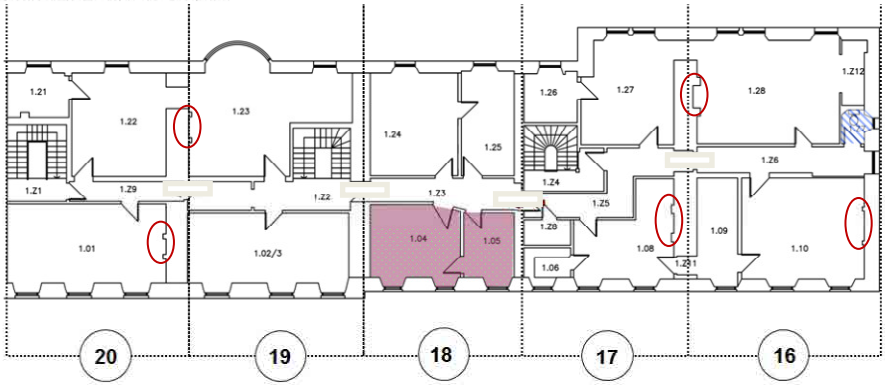
16-20, George Sq, Edimburgo

(1)

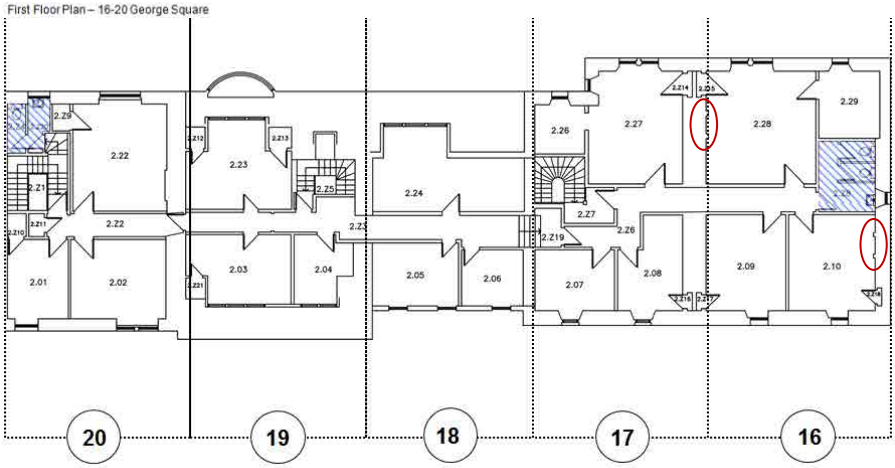
(2)



Ground Floor Plan – 16-20 George Square



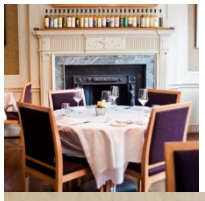
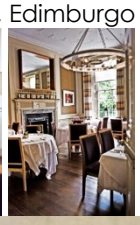
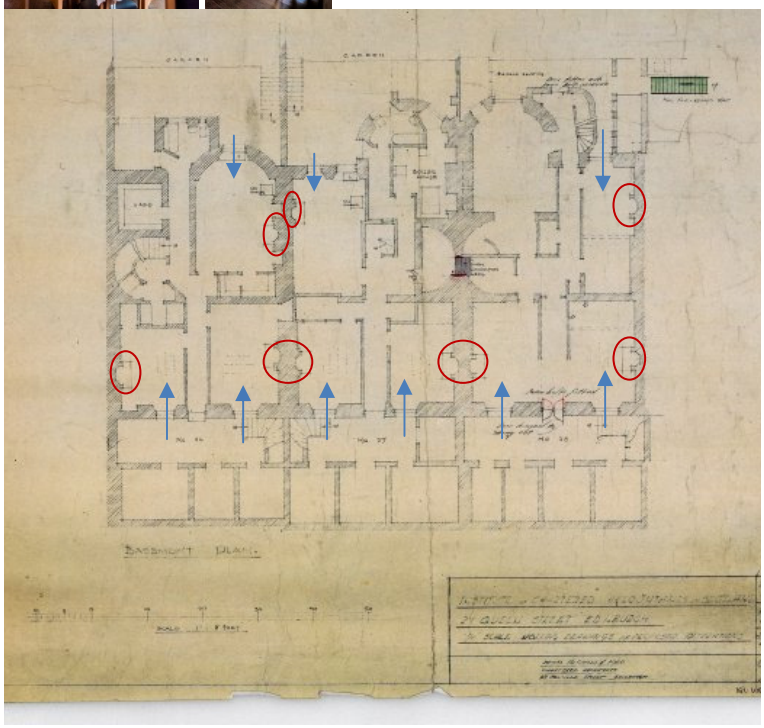
First Floor Plan – 16-20 George Square



Second Floor Plan – 16-20 George Square

(256)

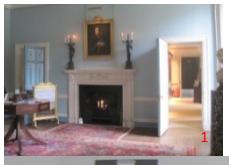
28 Queen Street, Edimburgo

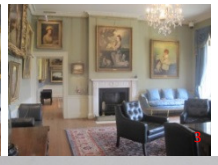




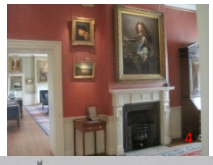
(257)

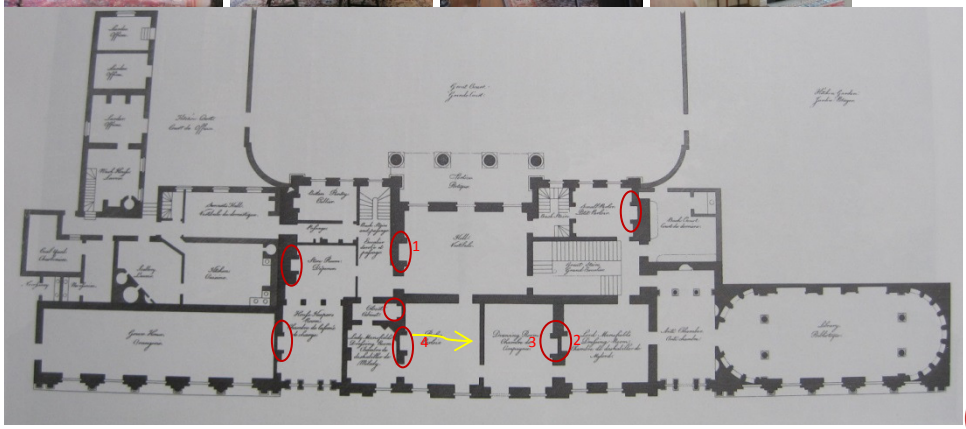
Mansiones

Kenwood House Londres

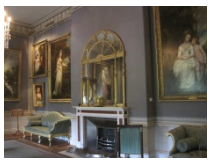


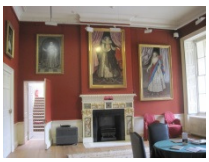




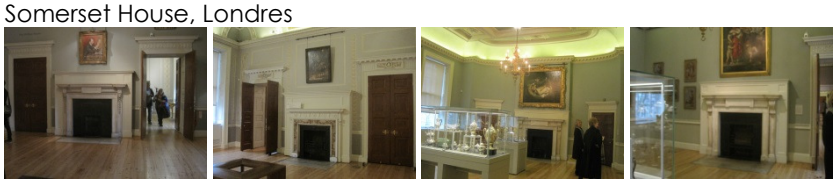


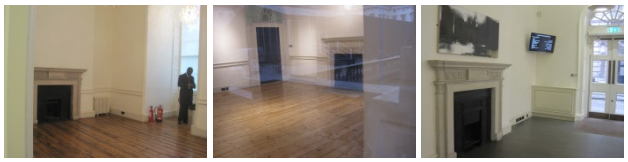
(258)





Somerset House, Londres

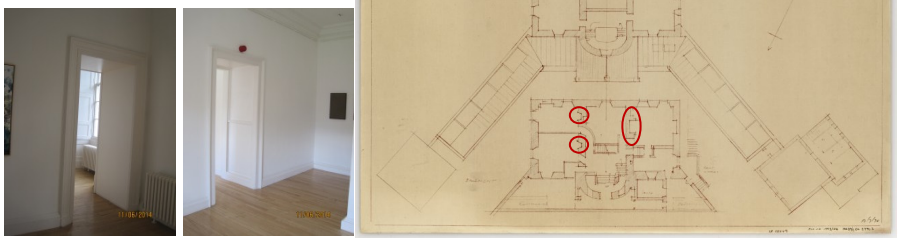

(259)



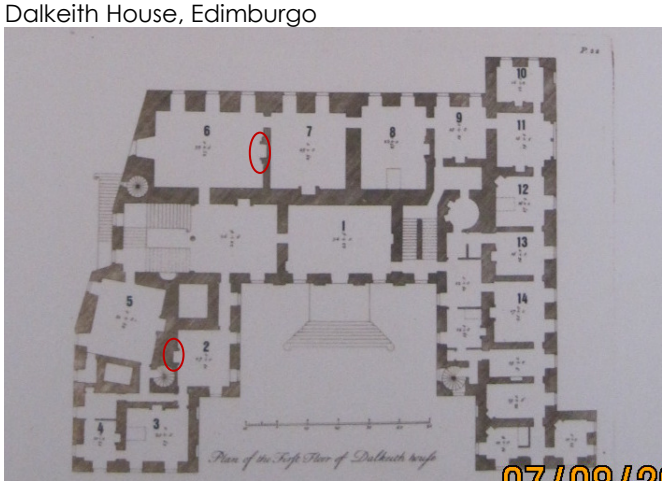
Como se ve en las fotos las chimeneas siempre quedan resguardadas de las corrientes de aire.

Inverleith House, Edimburgo

Aquí las chimeneas han desaparecido solo se ven las paredes más gruesas donde debieran estar. El plano nos muestra las chimeneas en planta sótano, entre el plano y el grueso de las paredes más lo que se ve en el exterior no se duda de su anterior existencia.


(260)

Dalkeith House, Edimburgo



(261)

Las corrientes de aire no afectan a las chimeneas, y no solo eso en el caso de plantas de edificios entre medianeras se ve que estas están en las medianeras.

(b) Ventana-escalera

SEGÚN TRATADOS :

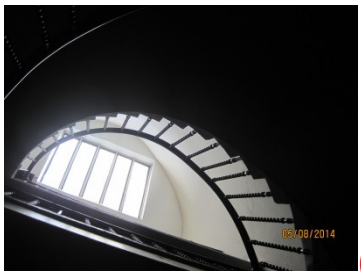
- Luz cenital a la escalera
- Si están en la pared han de estar centradas y ser grandes.

Viviendas entre medianeras

7-13, Buccleuch St, Edinburgo

(262)

15, West Crosscauseway St Edimburgo



(263)

16-20, George Sq., Edimburgo

N17. (264)

N.19 (265)

N20. (266)

Mansiones

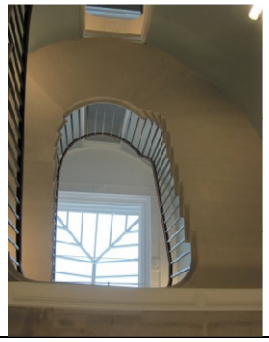
Kenwood House Londres



(267)

Somerset House, Londres (Al ser un edificio de edificios tiene varias escaleras)

Ala oeste

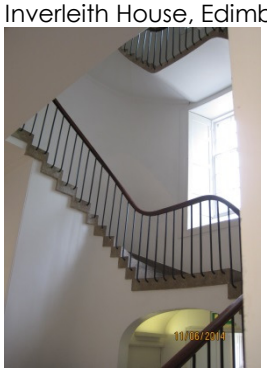
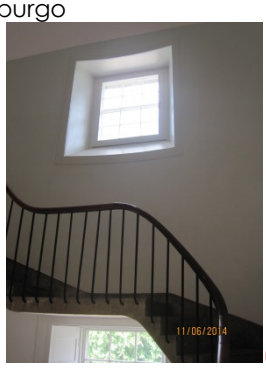


Ala marítima

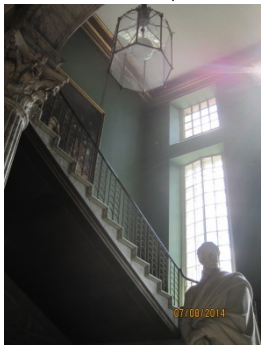
Escalera de Nelson

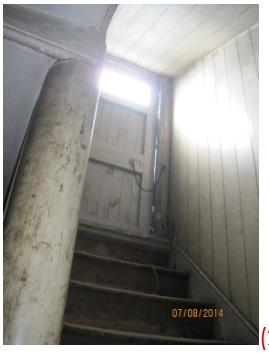

(268)

Inverleith House, Edimburgo



(269)

Dalkeith House, Edimburgo




(270)

El tema de una apropiada la iluminación de la escalera se puede observar en todos los casos en lo que se ha tenido la oportunidad de entrar.

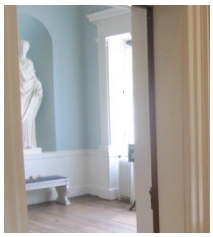
(c) Ventana

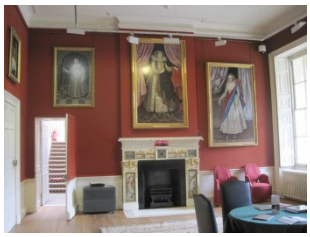
SEGÚN TRATADOS:

- El tamaño de la ventana ha de ser proporcional a la habitación en la que se encuentra
- Altura del alfeizar ha de estar como mínimo a 3,5 pies desde el suelo.
- Ha de tener buenas vistas.

Mansiones

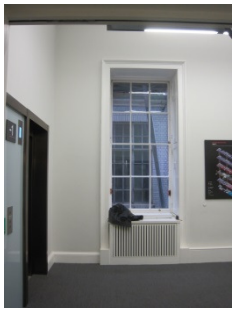
Kenwood House Londres

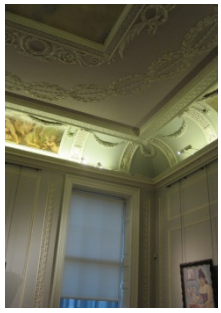






(271)

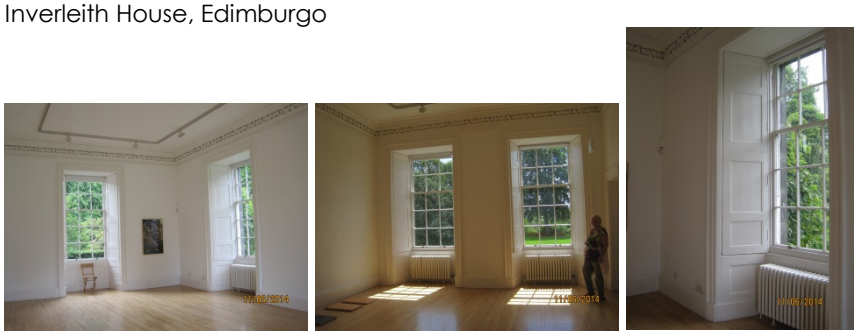
Somerset House, Londres

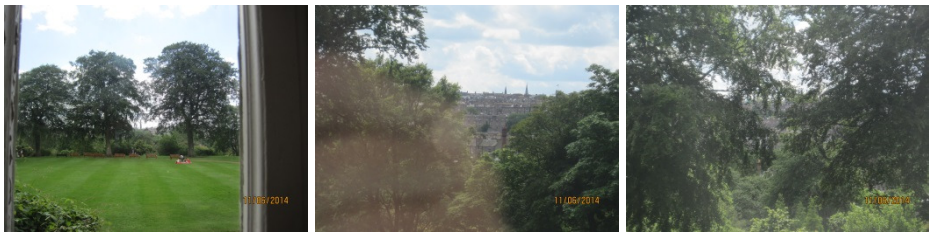




(272)

Inverleith House, Edimburgo





(273)

Dalkeith House, Edimburgo

(274)

Normalmente las ventanas son más altas que las puertas porque las medidas de estas se corresponden con la altura de la habitación, en cambio la altura de las puertas se corresponde con las de las personas que han de pasar.

Lo de las vistas en el caso de las mansiones es casi dogmático.

(d) Chimenea.

SEGÚN LOS TRATADOS

- El tamaño de la chimenea depende de la dimensión de la habitación en la que se encuentra.
- Nada de madera cerca de la chimenea
- Recomendación del uso de mármol en las chimeneas

En este caso las recomendaciones dadas por las normativas, aunque se pueden intentar comprobar en algunos lugares, es imposible en la mayoría porque al estar inutilizadas no se puede tomar las medidas internas que son los parámetros dados. La chimenea ha pasado de ser un elemento vital a algo de lo que se puede prescindir totalmente en la actualidad.

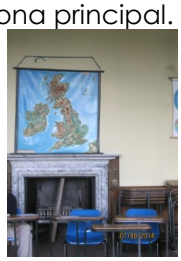
El ejemplo más claro de tamaño según la habitación lo tenemos en Dalkeith House, que al poder tener acceso hasta las habitaciones del servicio nos damos cuenta del cambio.

Chimeneas cocina.

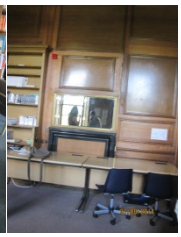
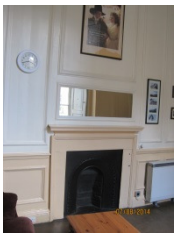
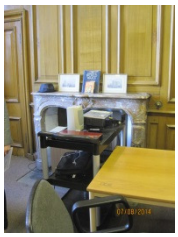


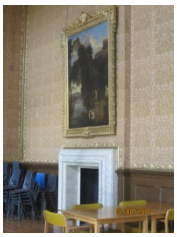

(275)

Chimeneas zona principal.





(276)

Chimeneas piso altillo y bajo cubierta.





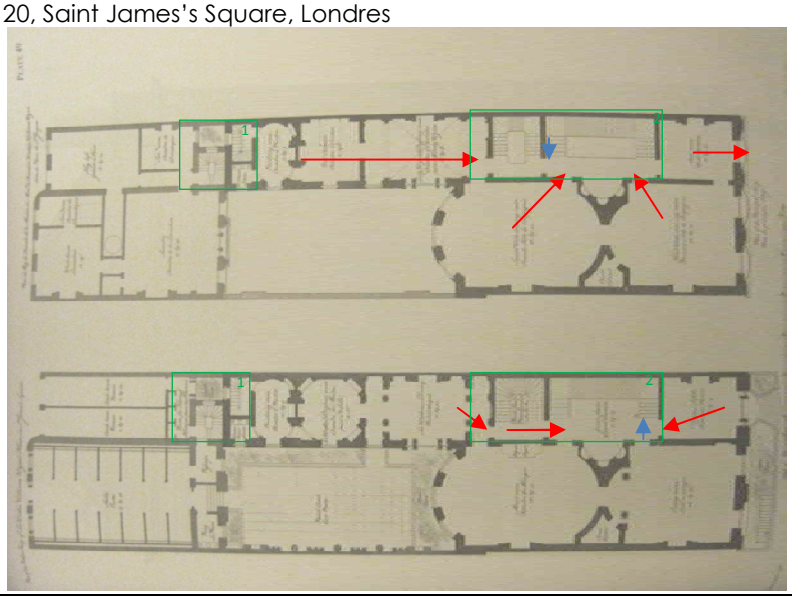


(277)

(e) Escalera

SEGÚN TRATADOS:

- Buena colocación de la escalera que no interfiera con otras partes de la casa
- Tres aberturas:
  - puerta de entrada a la vista
  - ventana que de luz (ver apartado a),
  - Desembarco espacioso para conveniente entrada al resto de habitaciones.
- Dos clases:
  - A la vista, grandes, anchas y de subida fácil
  - Lejos de la vista y en zonas de servicio.
- Casas de ciudad el acceso a la escalera desde las zonas privadas fácil, para poder salir en caso de incendio, y de piedra.
- Espacio sobre la cabeza ha de ser grande y aireado
- La escalera ha de semejar el modo de andar
- Escalones han de ser todos iguales
- Descansillos repartidos para hacerla cómoda.
- Anchura total suficiente para que suban y bajen dos personas al mismo tiempo.

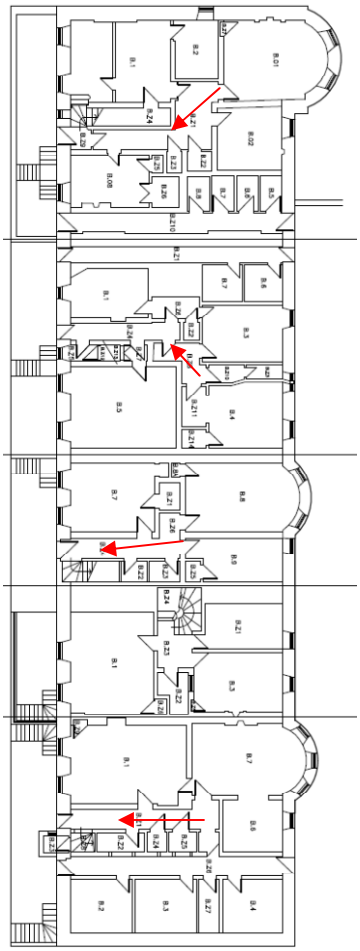
<table>
<tr><td colspan="2">Buena colocación de la escalera que no interfiera con otras partes de la casa
Tres aberturas:
o puerta de entrada a la vista
o ventana que de luz (ver apartado a),
o Desembarco espacioso para conveniente entrada al resto de habitaciones.
Dos clases:
o A la vista, grandes, anchas y de subida fácil
o Lejos de la vista y en zonas de servicio.
Casas de ciudad el acceso a la escalera desde las zonas privadas fácil, para poder salir en caso de incendio, y de piedra.</td></tr>
<tr><td>Vivienda entre medianeras</td><td>20, Saint James's Square, Londres
 
Escaleras de servicio (1)
Escaleras principales (2)
Principio de ascenso y desembarco ( )
Salidas directas ( )
(278)</td></tr>
</table>

Vivienda entre medianeras

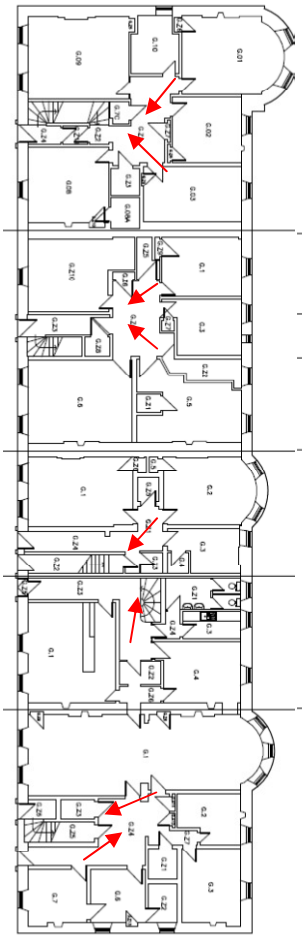
7-10, Buccleuch Street, Edimburgo

Edificio para alquilar, para gente sencilla, solo una escalera pero con acceso fácil.

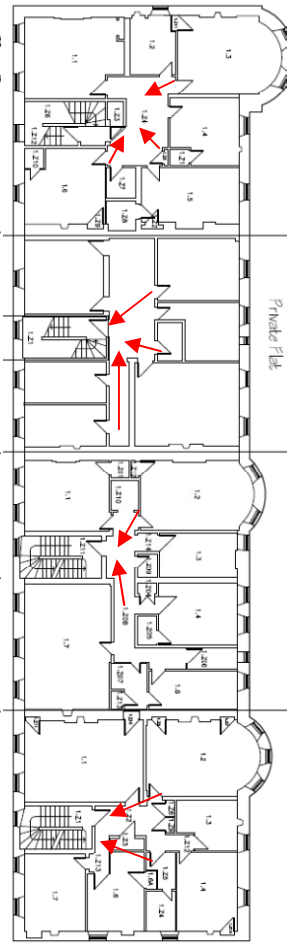
Planta baja



Planta primera

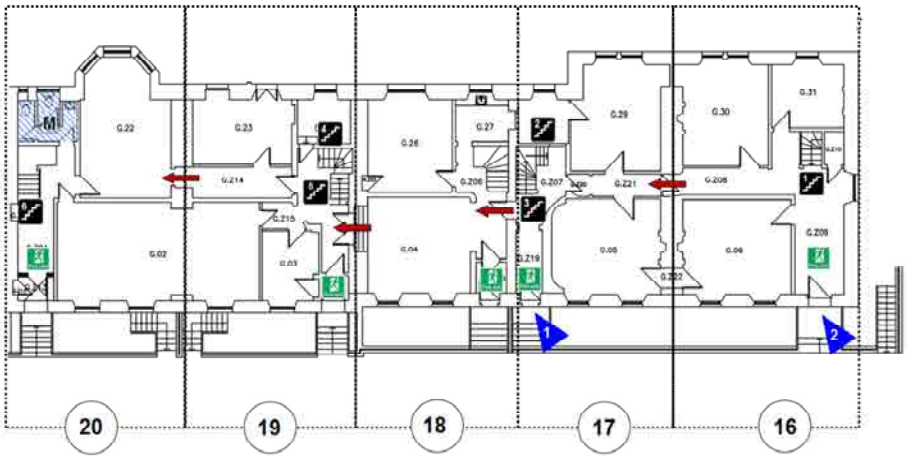


Planta segunda



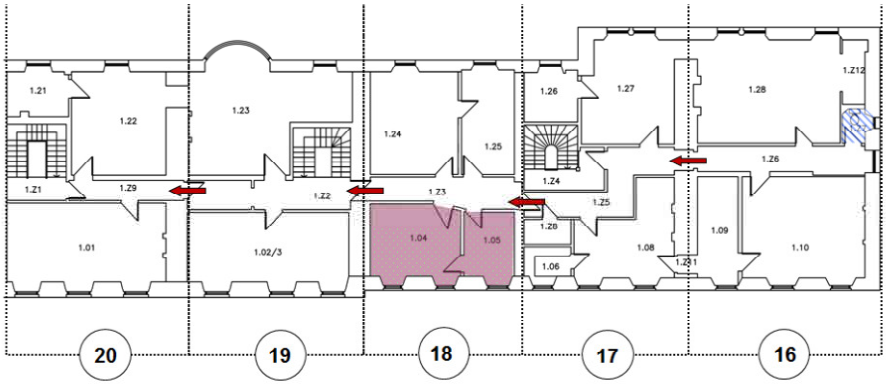
(279)

16-20 George Square, Edimburgo



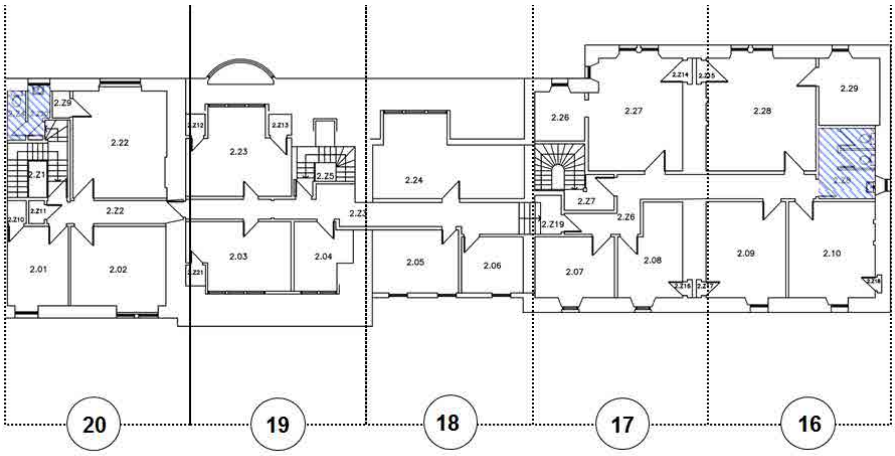
Ground Floor Plan – 16-20 George Square

(280)



First Floor Plan – 16-20 George Square

(281)



Second Floor Plan – 16-20 George Square

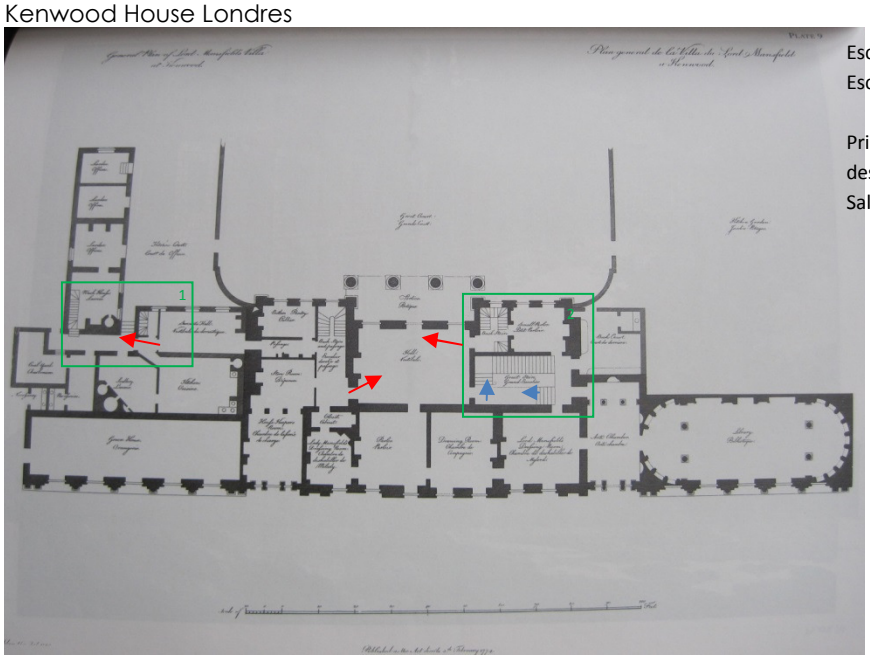
(282)

Se comprueba que la situación de las escaleras en cada "casa" está perfectamente centrada es de fácil acceso desde cualquier habitación y garantiza una rápida salida en caso de incendio

De hecho estos son los planos de seguridad de los edificios en la actualidad.

Mansiones

Kenwood House Londres

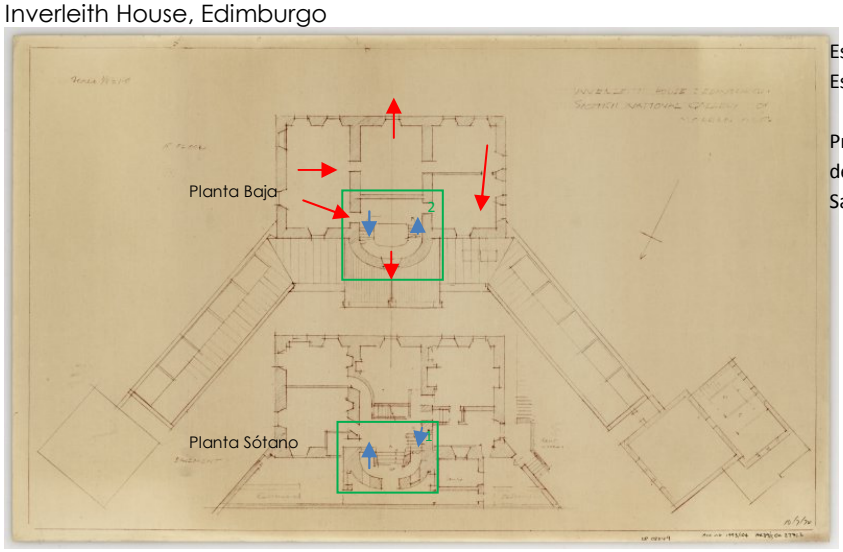


Escaleras de servicio (1)
Escaleras principales (2)

Principio de ascenso y desembarco ( )
Salidas directas ( )

(283)

Inverleith House, Edimburgo

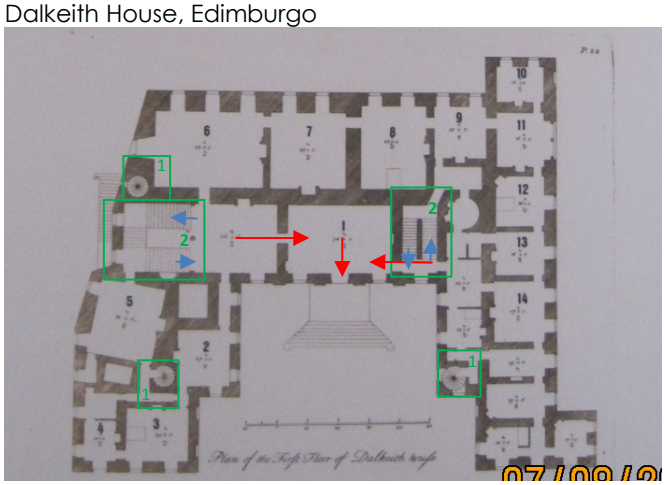


Escaleras de servicio (1)
Escaleras principales (2)

Principio de ascenso y desembarco ( )
Salidas directas ( )

(284)

Dalkeith House, Edimburgo



Escaleras de servicio (1)
Escaleras principales (2)

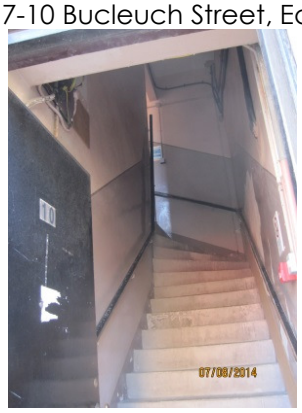
Principio de ascenso y desembarco ( )
Salidas directas ( )

(285)

Espacio sobre la cabeza ha de ser grande y aireado
La escalera ha de semejar el modo de andar
Escalones han de ser todos iguales
Descansillos repartidos para hacerla cómoda.
Anchura total suficiente para que suban y bajen dos personas al mismo tiempo.

Vivienda entre medianeras

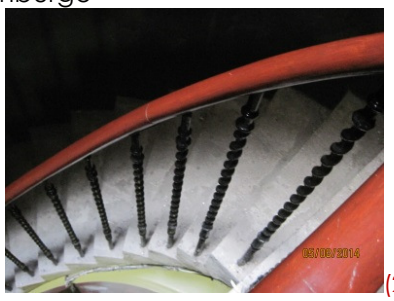
7-10 Bucleuch Street, Edimburgo




(286)

Espacio sobre la cabeza
Escalones iguales no muy altos
Escalera compensada sencilla de algo más de un metro de ancho, sin descansillos

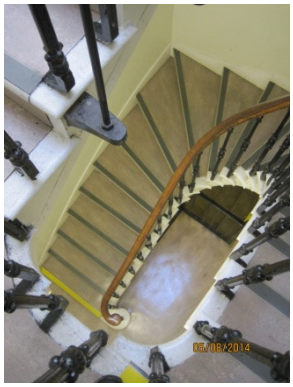
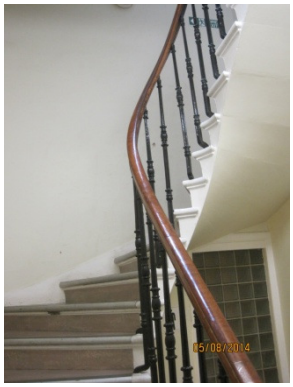
15, West Crosscauseway, Edimburgo



(287)

Espacio sobre la cabeza
Escalones iguales, no muy altos
Escalera compensada sencilla de algo más de un metro de ancho, solo desembarco, no descansillos. Barandilla trabajada.

16-20 George Square, Edimburgo

17.

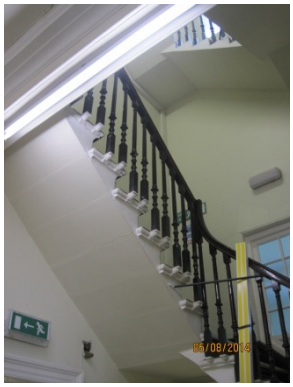



(288)

Espacio sobre la cabeza
Escalones iguales, no muy altos/ Escalera compensada más trabajada que las anteriores de algo más de un metro de ancho solo desembarco no descansillos

Vivienda entre medianeras

19.




(289)

Espacio sobre la cabeza
Escalones iguales, no muy altos/ Escalera por tramos, lo que significa que tiene descansillos, barandilla trabajada. Algo más de un metro de ancho.

20.

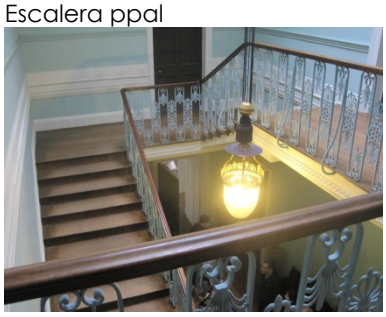
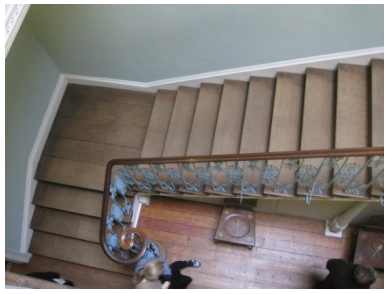


(290)

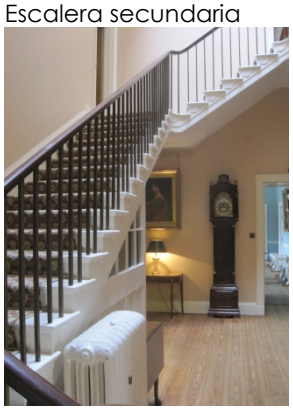
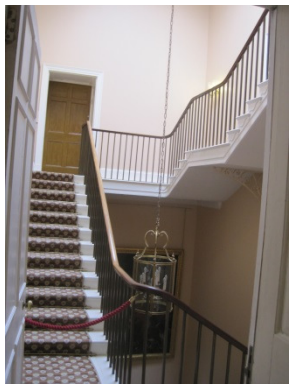
Espacio sobre la cabeza
Escalones iguales, no muy altos/ Escalera por tramos, lo que significa que tiene descansillos, barandilla trabajada. Algo más de un metro de ancho.

Mansiones

Kenwood House Londres
Escalera ppal



(291)

Escalera secundaria



(292)

Espacio sobre la cabeza
Escalones iguales, no muy altos/ Escalera por tramos, con descansillos, barandilla trabajada. 1,5 metros de ancho

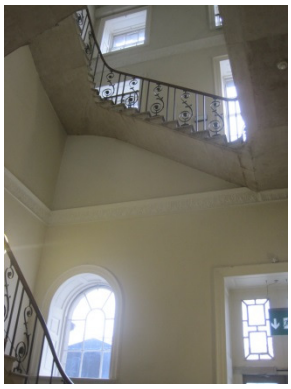
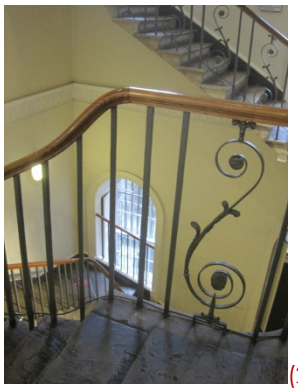
Mansiones

Somerset House, Londres

West wing stair.

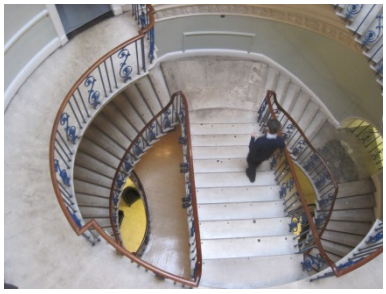
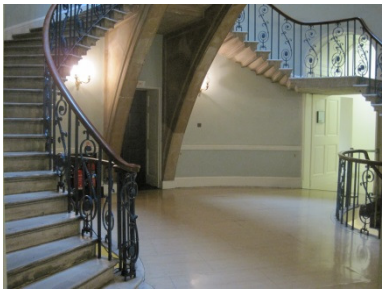
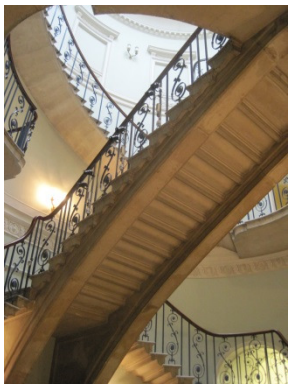

(293)

Maritime Wing

(294)

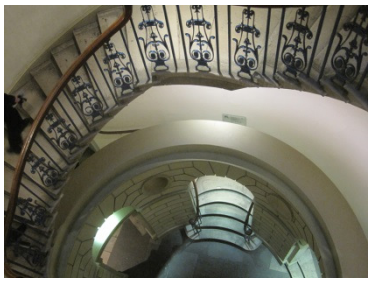
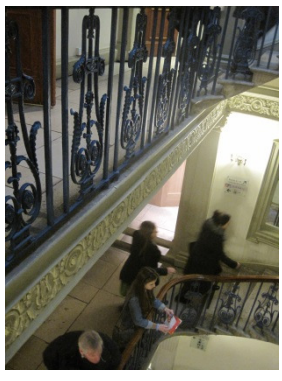
Nelson Stair

(295)

Zona exposiciones, escalera principal

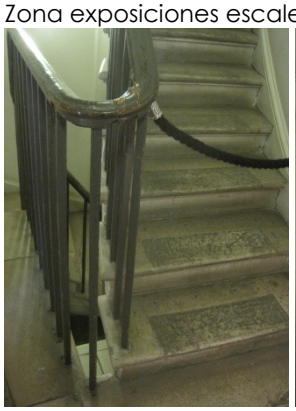
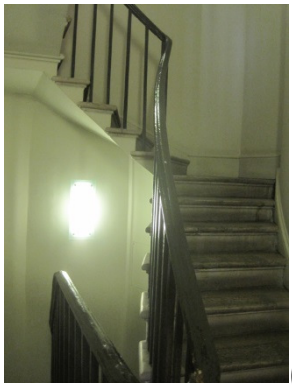
(296)

Espacio sobre la cabeza

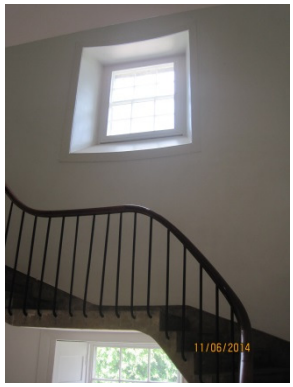
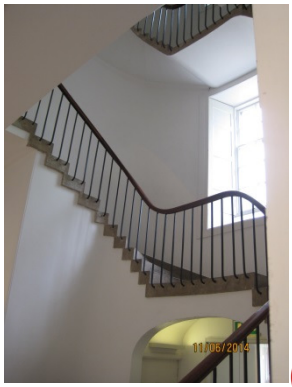
Escalones iguales, no muy altos/ Escaleras compensadas, barandillas trabajadas. A medida que sube la escalera es más estrecha.

Zona exposiciones escalera de servicio



(297)

Espacio sobre la cabeza
Escalones iguales, no muy altos
Escalera compensada, barandilla sencilla. A penas un metro de ancho.

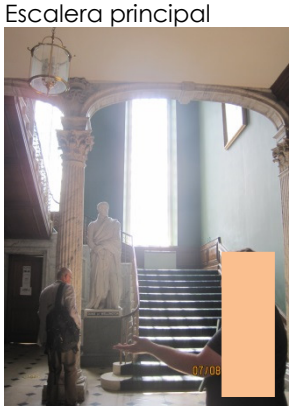
Inverleith House, Edimburgo




(298)

Espacio sobre la cabeza
Escalones iguales, no muy altos
Escalera compensada pero con descansillos, barandilla sencilla. Más de un metro de ancho.

Dalkeith House, Edimburgo

Escalera principal




(299)

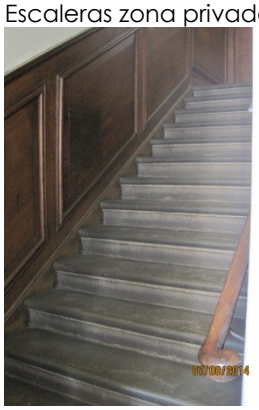
Espacio sobre la cabeza
Escalones iguales, no muy altos
Escalera por tramos con descansillos, barandilla trabajada. Más de dos metro de ancho.

Escalera a la planta sótano



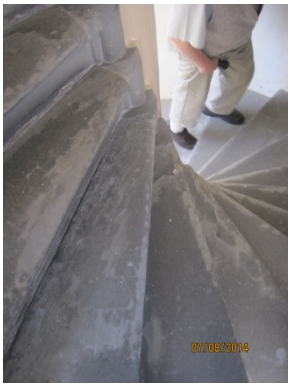
(300)
Espacio sobre la cabeza
Escalones parecidos, no muy altos
Escalera compensada, pasamanos. Más un metro de ancho.

Escaleras zona privada



(301)
Espacio sobre la cabeza
Escalones parecidos, no muy altos
Escalera compensada o por tramos, en general más estrecha que la principal. Más un metro de ancho.

Escaleras de servicio


(302)
Espacio sobre la cabeza
Escalones parecidos, algo más empinados
Escalera compensada o por tramos, en general más estrecha que la principal.

En lo que a escaleras se refiere, cuando se trata de zona noble siempre son más elegantes, hay una diferencia de anchura a medida que se sube.
Las escaleras de servicio en general son justitas aunque cumplen algunos parámetros.

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CONCLUSIONS

Introduction

In the beginning of this research the principal objective set out was:

> "Understanding the construction techniques and materials used in historical British construction through the books written in that period. A secondary objective would be to use those books an extra tool during building rehabilitations".

Several hypotheses were set out in order to explore the argument, which originated the study of the treatises:

1. The writers in his books made an accurate description of the construction way in that moment.
2. The British writers motivation is be useful, and therefore didactics.
3. The British treatises are influenced each other.
4. The treatises have some elements from stranger ones but put in the context of the British reality.
5. During the studied period the analysis of the whole treatises and its general context denote different periods: the books written in one period have a different character than others written in other period; the principal historical fact that defines the division is the Great fire of London.

In order to get the proper contrast of the first fundamental hypothesis is essential the contrast of the rest established hypothesis, this is the reason why this path starts in the second hypothesis to arrive the first one.

HYPOTHESIS 2: The British writers' motivation is to be useful, and therefore didactical.

Since the very beginning Wotton, and the prefaces are telling us that they want to teach, the objective of the book is therefore to give some parameters to do good construction. And in addition it is something more than evident when the contents of the books are analysed:

Wotton (1624) wrote for educated people; Gerbier (1662/3), and North (1695-6), wrote for the builders, advising in one hand to choose wisely the people to work with, and on the other hand instructed them in the knowledge of the characteristics of materials. Their objective is a comfortable house to the builders.

Then we find that Willsford (1659), Primatt (1667) y Leybourn (1668), basically are talking about materials description and prices, so as masonry will not be misled in prices and materials control. But the manner of their explanation it is not a warning it is just a plain laying of the facts. These are the construction materials and their prices: they want to teach and no a specialising teaching to a collective, a significant fact is the use of dialog between a judge and a Clerk of works in the first Leybourn book (1668), there is no acidity.

Moxon (1703), is an exceptional case, as he was a craftsmen and became a Royal Society member because he was the King's hydrographer. He was the first in be part of the Royal Society, coming from a low establishment class. He wrote for craftsmen: smiths, joiners, carpenters, bricklayers, and plasterers, for workers in general. He is very didactic, the discourse is plain and practical, it is a great help because the descriptions are good and real, he knew what he was talking about, and he has some interesting plates, which is an extra: the fact that Nicholson a century later decided to make an update of the book is meaningful (1812).

Although Nicholson's book is edited in London he is from Scotland; at the beginning of the 19th century starts a movement, which first focal point is in Edinburgh, that pretends to carry the culture to the worker class, and the updating of a book like that is a clear support to this movement.

The dictionaries (the Neve's one, the "Builders Dictionary", and the "Builders Magazine") considered as a whole, but they are not, work as a recap of all the knowledge about construction in alphabetical order, this order could be useful or not depending what are you looking for, but it is a way to be didactic; in addition they collect everything, whether it is from Great Britain, or foreign material, the aim is to bring closer to everybody all the necessary knowledge in order to do a good quality building.

Finally we have "The Complete Body of Architecture" (Ware, 1756) and "The Rudiments of Architecture" (Anonymous, 1773) throughout them there is a repetition

of the sentences: "the student has to know…" "the student have to get in account…" and both are very didactic.

Yet the next sentence from Ware, in reference to other treatises is a key clue:

(…)but they shew the necessity of an English body of Architecture for the use of English builder, a necessity which we shall very happy if we are as able to supply, as to discern.

(…) Pero nos ensenan la necesidad de un "Cuerpo de arquitectura inglés para el uso del constructor inglés, una necesidad que nos hará muy felices si sabemos suplirla y discernirla

Obviously many other the books, also has the intention to be didactic, and practical, but they do not have the necessary dates for the current thesis; it undoubtedly provides practical purchaser tables in pocket size, or the multiple lists of prices and measures in "Vademecum" or the realization of a book with the proper sizes of the orders both in "library size" and "pocket size", aiming to be possible to consult directly in the site.

There is no doubt about the didactical intentions of the British writers. To who the book is intended is another matter which will be dealt with later in the answer of the 5th hypothesis.

HYPOTHESIS 3: British treatises influenced each other.

Along chapter II it has been said that this writer explains the same, for that reason is not in the contents. That is, the writers copy each other: a fact confirmed along the study.

In any case it is "necessary" to copy, the writers objective is to transmit the knowledge, as it has been contrast in the last hypothesis, therefore "if I am talking about lime mortar and I have an adequate definition, I am going to use it, and I will add more information if I have it, I have to put all the information". The more evident examples are the two dictionaries from the first half of the 18th century; it is clear that the "Builders Dictionary" (Gibbs, James & Hawksmore, 1734) copies Neve's Dictionary written in 1703, expands it and includes some plates in order to make it even more accessible.

Obviously the editors of Neve's Dictionary were not very happy with the "*Builders Dictionary*", and there is a criticism by Batty Langley, what was comment. In general "*Builders Dictionary*" mention its sources (with the exception of Neve and Moxon), and this study consulted them, and there are more copy in the British treatises.

Other example of copying is the "*Builders Magazine*" relating to Ware's book, some of the definitions are an exact copy of Ware's book, but there is no reference from the source. This book edited by the Society of Architects in 1779, and Ware have died in 1776; Harris dictionary (the only one actual source where to look for this kind of information) have more worries about the origin of the plates, and give some sources for the definitions there is no comments about Ware.

Curiously, there are two authors quite ignored, Gerbier and North, although Almudena Herreros in her thesis (2008) said that Gerbier was a great influence to the British writers, he is rarely named, on the contrary, Wotton is named and copied in almost all the treatises,; it seems that copy part of its contents is quite usual not a rule, it should be the introduction to more complete material, but it seems a not write rule to name it. On the other hand other authors are also ignored.

HYPOTHESIS 4: Treatises have some elements from foreign ones but placed in the context of the British reality.

In the last explanation there is a cut when we talk about the "*Builders Dictionary*" (Gibbs, James & Hawksmore, 1734) is not the only one copying other authors. The first one copying is Wotton (1624) but always naming his sources.

Wotton's problem was that he has no British author to copy (Shute could be an exception but he just talks about the orders) and hard to extract information from the Italian and French classics; he was an English Diplomat in Italy and France, who has travelled a lot, and has been in contact with this kind of culture, which gives him material to write the book, but that is something well analysed in Agüera's book (1997).

Gerbier (1662/3) did not copy too much, he relied on the classics but not too much, he is very worried about the Surveyors interest in Vignola orders and does not think too much in the site, that is the reason of its recommendations. He names the big ones, Vitruvius, Palladio, but essentially there is no great influence.

As all they have Wotton as a reference, almost all the British writers copied but always adapting the techniques to the characteristics of the British construction and environment. Part of Leybourn's book from 1700 is a copy from Scamozzi's orders, Leoni's book (1715) is a translation of Palladio (1570); both dictionaries make references to other sources, but there is a curiosity that both dictionaries made reference to Palladian chimneys measures, but Palladio in his book hardly talks about the parts of the chimney and the smoke problem. Therefore the author's measurement must have been made another person, but they have more importance if the author is assigned to be Palladio.

It is also in the "*Builders Dictionary*" definition of chimneys where we could find an exact copy of the translation from a French text. But in this case it is possible to follow the clue without problems because they name the original author Gauger and the translator, but Neve's dictionary does not have this content because the Gauger book was written in 1713 and Neve's dictionary was published in 1703.

Surprisingly, in some cases the dictionaries do not name their sources and in others they do not have any problem in giving them. It is suspicious that Wotton and Leybourn are named without problems but Moxon rarely is named and it has been a good source for the definition of "mortar", maybe the craftsmen origin of Moxon is the reason.

And then we have Ware (1756), the problem with him is that he talks about Wotton, the ancient or the French masons, but he do not specify this is from that book or this is from another; Harris said, that he is influenced by Perrault and Laugier but at the same he contradicts them. They are not named in any moment, and if Harris is right this influence has been in the aesthetic and orders are part of the book. In the description of materials, foundations, walls and the rest of the elements of

construction, there are some reminiscences to Palladio, but it is more complete, and the detail level looks like Alberti but without being Alberti either. One of the reasons is:

Palladio could not judge of the differences of *Portland* and *Purbeck* stone; and it is impossible to learn from all *Vitruvius* has written concerning bricks, whether those he mentions were burn or dry'd in the sun.

Palladio no puede juzgar las diferencias entre la piedra Portland y la Purbeck; y es imposible aprender de todo lo que Vitruvius escribió sobre ladrillos, cuando los que menciona eran quemados o secados al sol.

When Ware (1756) starts to talk about materials, he introduces the topic saying that Palladio could not know the British stones, and what Vitruvius said about bricks is impossible in Britain. He adds that is impossible to accuse these great men of ignorance, they do not have any way to know these realities.

Books that are not considered in the current study, like the ones about the orders, are inspired or name the fourth book of Serlio, Vignola or similar authors, without forgetting Palladio, of course.

The ones which talk about distributions with prices have as precedent the "pattern books" by Savot (1685) or Le Muet (1623).

It is clear that Vitruvius and Palladio are the paradigm of the knowledge about construction, and always have been named, even in the tittles, although the contents have no connections with the originals, because "*Vitruvius Britannicus*" (Campbell 1725), and "*Vitruvius Scotticus*" (Adam, 1811) are a collection of plates with designs of real houses from the period in Britain and Scotland, without no explanations except the preface. The tittles are therefore misleading but they intend to give prestige.

HYPOTHESIS 5: During the studied period the analysis of the whole treatises and its general context denote different periods: the books written in one period have a different character than others written in other period; the principal historical fact that makes a great division between one period and others is the Great Fire of London.

The Great fire of London in 1666, is the reason of an exodus from the countryside to London, which means less craftsmen in the countryside (Yeomens, 1986), on the other hand, an abuse of the prices of materials as working hand.

This fact affects directly the construction treatises so that we can talk about treatises before 1666 and afterwards. But it is not the only one period.

1 Treatises wrote before the Great Fire.

These treatises were written between 1563, when Shute's treatise appeared, and 1664, when the Evelyn's treatise is written, a little more than a century and we could find 6 books that is possible to consider treatises more or less originals.

They are characterized in general that they are not written by architects, maybe the exception is Leybourn (1659) and his treatise about topography, who knows exactly what he is talking about; but the rest are diplomats, who for any reason have been in contact with architecture, and in order to get a special position decided to write about architecture. They are a little bit like Vitruvius, who decides to write about architecture to get a special favour from the Emperor.

They have as background other texts, Vitruvius, Alberti, Palladio, De l'Orme, the good thing about it is that they do not conceal the sources, and defend themselves telling that is not necessary to be an architect to be able to talk about architecture.

The tone is relaxed, just a little bit complicated, probably because they are used to write another kind of documentation, and it is very frequent to find anecdotal stuff, Gerbier use a lot, he is not able to explain something without telling us a story, usually about the royalty. It is possible to consider these comments as part of a strategy to be in a good communion with the King and get an important place in court.

2 Treatises wrote "a posteriori" Great London fire.

After the London Fire we find a boom of books; in the century after the fire we could say that the books increase greatly, they multiply by 10, at least. Obviously between originals and later editions but we are talking about a considerable rising of the number of publications.

The first main reason, after the London fire, and basically because the writers told us, is the necessity of teaching new construction professionals, because a lot of them are in the city, and there still need for professionals in the countryside and now it is almost impossible to count on the oral transmission of the knowledge.

The fact that "Mechanick Exercises" by Moxon (1703) is reedited during the whole century till Nicholson in 19th century decides to updating it, it is an indication of the learning desires of some professionals (1812).

Another main reason are the effects an extreme situation could generate, as the outrage of suppliers and professionals causing abuse in materials prices and the workforce; that is the reason why the books are dedicated to "Purchaser" and "Vademecum" that they are mensuration tables and prices that allow to get the control of them.

In contrast, a curiosity, in the second half of the 18th century, with three exceptions Salmon (1756) (a reedition of his Vademecum), Halfpenny, and Pain, is that the mentioning of prices of materials and workforce is rare. Still measurement tables are included (there are no calculations), but it is difficult to find tables with pounds and shillings.

a) The fire or treatises boom and the reality in construction

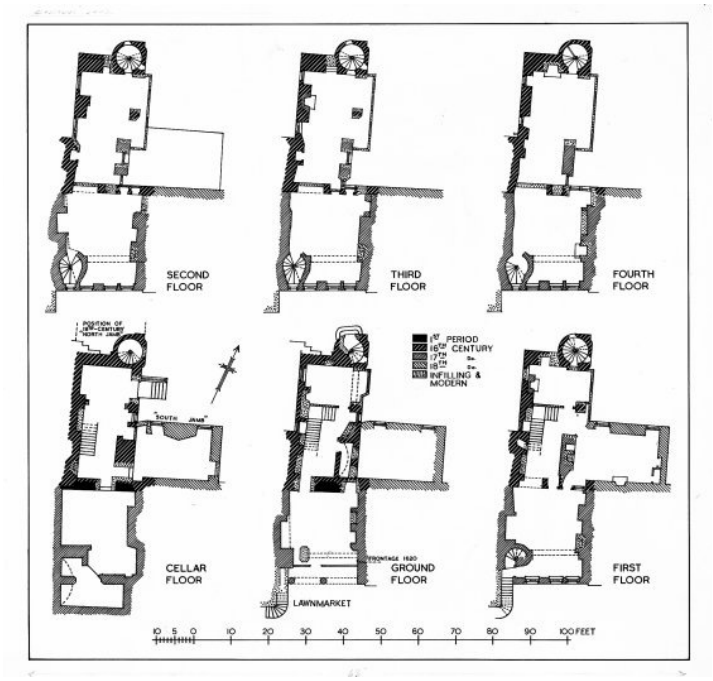
As has been said in the last paragraph, the fire was a turning point in the treatises, in relation to the reality, about London, we know that it means the change of the aspect of the city, but we do not have real examples, of older buildings: we know that timber in facade is just for windows and it has been, at least, 4 inches from the facade line, in order to avoid the fire. Timber and windows are forbidden in party walls.

Unfortunately that it is something quite difficult to prove in London. But in Edinburgh, as it was not totally burnt, we could observe some examples of houses built before the fire and the designs are:

3 views of a house from beginning of 17th century located in Cramond, part of Edinburgh Council. (303)

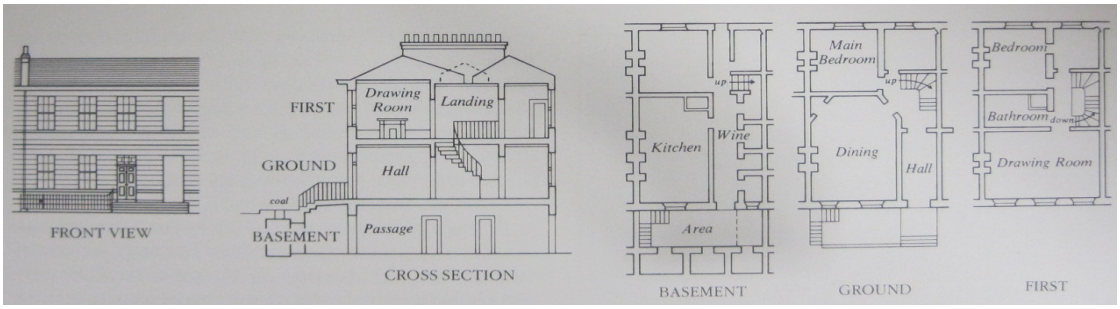
New Hailes, house from half 18th century located in Lothian (near Edinburgh) (304)

There is a great difference in the composition of the facades, in Scotland they maintain the tower as part of historical architecture based in castles. And there are some organic changes in distributions, which is easy to see in the next plates.



Gladstone's land, building located in the Royal Mile "Old city" of Edinburgh, from beginning of 17th century

(305)



(306)

Extract from "Edinburgh Newtown Guide, the Story of the Georgian New Town Colin McWilliam
NOTE: La "Newtown" is the expansion of the City of Edinburgh made during the 18th century.

3 The third period in the treatises

Not only the fire is a turning point in the treatises, there is another subtle period of time which moment is the second half of 18th century.

When fire effects had gone, it seems not as necessary to talk about construction in general, the books are monothematic, and it seems more important to talk about algebra, geometry and orders composition than materials and prices, with exceptions, but the tone is different, it is easiest to advert it with the help of this recap:

1. Before the London fire it is possible to find two kind of writers.

    - Writers that translate the arithmetic reasons to the work class, the "Techtonicum" from Digges (Yeomens, 1986) was edited during long time because it was necessary to do the site calculations, there are some of this kind, they are small size, but they are to do calculations, they have no technical descriptions.
    - Writers are dilettantes, they are usually gentlemen not from the building environment, they need to use the ancient book to acquire their knowledge, it is necessary but they always adapt the knowledge to the English reality; sometimes they based their books in proper observations, because they have suffered the problem as owners, rather than be builders, the objective is teach to high establishment. And in general, they are looking for a favour, from the king or a place that needs a publication.

2. From the London fire till the half of 18th century, there is an exceptional moment.

    - There is a mixture, the writers could be dilettantes or builders: they are directed to craftsmen, they try to teach experience and they are more technical: the background could be the "ancient knowledge"; or there is a mix of everything: the contemporary influences, from the ancients, from strangers and the regulations generated after the fires.
    - The clear objective is: a provisional substitution of the oral tradition, from the master to the learner, by teaching with books due to the exceptional moment, the contents have the whole knowledge, all is fair, the transmission of the knowledge is the main point, and as it has been said, if it is necessary copy, then people copy.

3. From the middle of 18th century, till the end of the century

    - The writers are architects or have been dedicated to any aspect of architecture or building.
    - They use as background the ancient texts in order to explain their opinions, naming the ancient texts gives character to the contents.
    - They are looking for a personal recognition, and teach, but this teaching is more about composition than construction, and with the exception of "Edinburgh Smoky Doctor" (1757), the books are oriented to owners, architects and students of architecture. It is very important to say, the level of description is very accurate, but it is not for craftsmen, it is for the architect or architecture student.

In order to illustrate the comparison between the last two described periods, the example of the window is the best: in its description Moxon (1703) says how it is necessary to prepare the wall and how put the window frame and how the wall has to grow up in order the window frame is stable; on the other hand, in the Ware (1756) and Chambers (1759) treatises the main preoccupation related to the window is the light, the proportion with the rest of the room, and the decorations. That is, the first is talking to the workman, and the second to the architect student or architect.

The current study is finished with Nicholson's update of Moxon "*Mechanick Exercises*", (1703) because is a way of going back to the subject; at the beginning of the 19th century there is a concern about how far in one side to use a more scientific vocabulary, on the other side to teach the lower establishment. It is meaningful to have this update of this work in this exactly period of time.

It is not that from the half of 18th century the craftsmen were ignored by the treatises. There are some pattern-books, but just about carpentry or joinery, about roofs and floors but not how to do a good foundation or rise a good wall, from the side of the worker. There are some books about algebra and perspective, but these kinds of books are not part of the current study.

HYPOTHESIS 1: The book writers in their contents make an accurate description of the way how was the construction in that period.

As it has been seen along chapter II the descriptions about construction techniques and materials are quite accurate, not all the books talk about everything, but joining the knowledge of the several books we could arrive to do the choice of the site as the correct construction of the roof. Even though it is not described in this study there are complete descriptions in other sources (Yeomens, 1986/ Gómez 2006).

As well as there has been a contrast some of the parameters explained in texts with reality. Although contrast to reality have been based on four elements: wall, window, staircase and chimney, and in the aesthetic way, it is possible to find some real examples of other elements which helps to complete the conclusions.

If we take the scheme of the constructive principles we will find the next.

1.Space. Adaptation space and use

In treatises the adaptation space use is essential: as it has been seen from the moment that the situation of the building is lay out, the way of thinking is that the situation was good for the necessities of the owner. But this necessity of adaptation the space to the different uses is even more evident when they talk about the distribution of the different rooms of the house.

"The place of every part is to be determined by the use" (Wotton, 1624)

"El lugar de cada parte viene determinado por el uso"

The exterior element or location.

Treatises contents talk about the necessity would be adapted to the future use, they are very clear, the zone has to have water and Wood, and have a good communication with the city, not too far away, not too close; and being careful with your neighbor.

In cases study, it has been possible to see that in some cases part of these conditions were accomplish by them:

(307) *Inverleith, one of the examples, a house with good links to the City of Edinburgh.*

(308) *As it can be seen London is not too far from Kenwood House.*

The distribution element: layout

It is recommended to consider each part taking into account its use, starting with the basics: the servants must been placed in the lower part of the house so they are out of the way, and the bedrooms must be located as far as possible from the street noise. Morris and Ware, describe almost exactly the location of any room in the house according to their use in city houses (which ultimately are the most common ones). Country houses always gives you more freedom when it comes to designing the spaces.

The structural element: foundation.

The foundation space is related to the soil and for that reason, the treatises offer advice, to get sure about the properties of the soil. They consciously think about the need of good soil in order to achieve the durability of the building, and to know the soil is a priority, although in their contents they include the need for a good architect engine in order to get the required strength in the soil to support the building when it is not enough good. And it is necessary to take into account what the regulations said about the soil, and to carry out an inspection previously to make sure the foundation is not disturbing the neighbours.

The structural-envelop element: the wall

There are some definitions of wall, some more complete than others. In some cases the aspect is defined as an envelope, and in other definitions it is easy to find the structural function too: "it is what contains the whole house or particular rooms and supports the roof and floors". They are not great definitions but they are correct, the wall is evidence in the house, it is so important and so common than a better definition is not required.

The envelopment element: the window

When the definitions of window are read it is clear that the window is a weakness in the wall. It is necessary because it lights and airs the room. Since it's a weakness, it is necessary to have a small number of them, and to avoid placing them near the corners (we have to remember how important the strength of the angles is on the wall), the recommendation about "solid over solid and void over void", it is part of this need.

The installation: the chimney

Its definition says that is the place where the fire is done, and there is an analysis of the parts, one of them is very important because it affects the whole building: the funnel.

The structural element: the stair

Definitions describe them as the element used to go up and down from one store to the other, and the need for the staircase space to have three overtures, the access, the evacuation and the requirement to let light in, in order to be useful.

Therefore, it is clear that treatises consider this need for the building, in general and its different elements, to have a connection between space and use.

2.Environment. Environmental adaptation of each space to its activity

The treatises consider the environment as something essential, Wotton (1624) says:

"… being a perpetual ambient, and ingredient, and the defects thereof, incorregible…"

"…siendo el ambiente el ingrediente perpetuo, y los defectos son incorregibles…"

The exterior element: the location.

It is recommended that it has healthy, not stagnant water and the inhabitants and animals that live there have a healthy appearance.

The distribution element: the layout

With regards to the environment, they recommended the orientation of each room considering the activity that will be carried out there is done in a good environment. We could say that some of these recommendations have been borrowed from ancient writers, but even then, some of the cases studied follow them.

The structural element: the foundation.

There is an ideal circumstance which allows the no existence of foundations, it is call the "natural foundation" and it consists of building directly in the rock. When the circumstances are good, this is the best solution for the foundations but it is not very frequently.

The structural-envelop element: the wall.

Related to this principle, there is no direct comment with regards to the wall.

The envelop element: the window.

The concepts of airy and light rooms are recuperated and it is add the need of the view, which is something very important even in the location point. It is not recommended over-illuminating rooms, but an intermediate point, because the window is a point the cold could come in to the building and that it is no good. It is appreciated the ceiling light in the illumination of staircases, or if it is not possible, a large window; the staircase must be illuminated.

The installation: the chimney

When linking the environment with the chimney the first thing that it stands out is that it is the heating source of the building, and it is not used to heat only but also to cook, it is a practical element. But we should take into account the exteriors; the funnels depend on the winds, and the fact that there shouldn't be outside elements that will prevent the exit of the smoke. On the other side, the location of doors and windows inside is vital to help expelling the smoke. At this point it is impossible not to

comment the importance that Chambers (1759) gives to the chimney at a social level. He says that the chimney must be in full sight from the entrance of any room because people who are looking for other people will look at the chimney first thing (this is very practical advice having seen the size of some rooms in houses from this period).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The structural element: the staircase

The environment and the staircase have an important significance because in any way the staircase is what marked the needs of the building. The number of staircases and their place mark the kind of house and the needs. That is something reflected in the real examples, when we see the layout.

The environment is a principle that depending on the element is more or less treated, but the idea of a healthy environment is very clear; and very well defined when we talk about the distribution of the environments, because there is an interest to create a healthy environment which are, again, adapted to their use; "Libraries must face east because the morning is the time of muses", and it's important to favour a good working environment. This fact makes that, with relation to this principle, foundation and the wall, don't give much place. The case of the window is different, the type and the quantity of light are important. And with regards to the chimney, not only it is the heating of the house but also the social point; or the stairs, which are designed according to the needs of the house.

3.Integrity. Long-term integrity of the own building and his occupants

With this principle the treatises are very strict. They talk about the integrity of the soil, and to take into account people's health, an unhealthy environment could be dangerous to building's integrity. Ware (1756), when introducing the materials made this consideration:

Strength is so great a consideration in all buildings; that their elegance and convenience are of no consequence without it;

La fuerza es una gran consideración en todos los edificios, que su elegancia y conveniencia no tienen importancia sin ella;

The exterior element: the location

As it has been commented, the treatises mix this principle with the environment because they recommend a healthy environment that does not causes illness, and which assists to health integrity of the people living there. And having taking into account than in wet environments the structural elements could be affected by the environment.

The distribution element: the layout

There are different parameters with relation to the integrity: good layout of doors and windows, avoiding the smoke of the chimney, and a good relation between rooms. Ware (1756) considers that a correct layout of the staircase could be the key point in the relationship between rooms and their use. It would be useful to draw the rest in the staircase situation. This advice is quite followed by many architects, and it has been observed in the cases studied.

The structural element: the foundation

When talking about the integrity of the foundation, treatises recommend to prepare the soil well in order to avoid future problems: from doing the excavations for the underground channeling with the intention of studying the ground and checking its compactness and its moisture, advises to avoid moisture due to capillarity, ramming down the clay near the wall, which will avoid the moisture reaching the wall, the convenience of using lime mortar in the foundations; compacting it with an iron bar and ramming down of soil, and reaching firm land when there is muddy soil.

The structural-envelopment element: the wall

The treatises talked about the wall integrity from several perspectives. The wall stability due to its thickness- point analyzed by all the treatises- or even by the regulations, which is related to the diminishing rule, which pretends to improve the strength of the wall. The weight of roof and floors is important in the calculation of the thickness, and whether there are any arcs and vaults. It is important the verticality of the wall, the walls must be constructed perpendicularly. It is also mentioned the need to improve the strength of angles. There are descriptions about

how to make the wall firmer; the importance of the layout of chimneys and voids. Some of these parameters have been seen in the cases studied like for instance:


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It is obvious that the angles are strong and the thickness of the walls is enough: the paper is a DIN-A4.

The envelop element: the window

In treatises related to the window integrity, in one side we have the need for a comfortable size to its use and proper materials to avoid the wind; on the other hand we have the regulations where the description of the parameters of the location of the windows in order to avoid fire propagation, which was noticeable in the cases studied.


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The installation element: the chimney

The integrity of the chimney element is described on the regulations. It is important to remember that the regulations were written in order to avoid fires and the main point of fire in any house is the chimney. But not only the regulations gave advice about chimneys; Gerbier (1662) told us that it's important to control the height of the chimney stack because if it is very high a strong wind could make it fall down "and kill you in your own bed". The chimney is the element in which expertise is more necessary, not just in order to avoid fire, the smoke problem has be avoid, as it is mentioned in the treatises. There are some advices to avoid smoke in any room. It is curious to see that there are specialized treatises about this topic: the translation of

a French one, and the "Edinburgh Smoky doctor" (Brownlie &Carmichael, 1757), specialized in avoid the smoke in a house. The existence of a publication like this, wrote by masons, not by architects (the moment was the middle of 18th century) when the figure of architects starts to be popular. It is remarkable the detail level of this publication in order to avoid the smoke problem.

The structural element: the staircase

The main point about integrity and staircase is the fact, as Morris (1734) said that it has to be a comfortable distance from any room in order for it to have an easy way out of the building when there is a fire alarm.

And of course, talking about fires, we can't forget that all elements of construction must follow the regulations, part of the contents in most of the treatises studied along this period.

On the regulations the safety of walls, windows and roofs is a main point; it is important not to lay out timber in places where fire is a real danger. But the main characteristic in the regulations is the chimney, which could be a problem in the case of a fire and the case of smoke, very uncomfortable.

As we can see in relation to the integrity, from the point of view of the location consideration is given to the need for a healthy site, for the benefit of the house occupants, and for the benefit of the building itself. The materials are easily corrupted in unhealthy environments. With regards to the layout, the elements must be organized in order to work properly, like the need to make sure that all doors and windows are distributed correctly to avoid draughts that prevent the correct use of the chimney, or the location of the stair-case in a place where it doesn't obstruct or it is obstructed. Talking about the foundation, its integrity depends directly on the soil, reason why it is recommended to do a thorough study. And walls- taking into account the number and location of the windows during the design of the wall, considering the facade as a whole.

4.Production. Efficiency of the construction processes

It has been verified that not the whole of the treatises but some of them: Gerbier (1663), North (1695-6), Moxon (1703), Neve (1703/1736), "*Builders Dictionary*" (Gibbs, James & Hawksmore, 1734), Ware (1756), "*Builder's Magazine*" (Society of Architects, 1779) and Nicholson (1812), and in the chimneys case it is important to add the "Edinburgh Smoky Doctor" (Brownlie & Carmichael, 1757) that they have a lot to say about construction techniques of the different elements, as the required materials.

Fourthly, if you lay brick in hot dry weather, and be it some small piece of work that you would have very strong, dip every brick you lay, all over a pale of water, which will make the wall much stronger than if the bricks were laid dry. (Moxon, 1703) .

Cuarto, si colocas un ladrillo en tiempo cálido y seco, y ser que esa pequeña pieza de trabajo sea fuerte, sumerge cada ladrillo que vayas a colocar, todos sobre un cubo de agua, lo que hará que las paredes sean mucho más fuertes que si los ladrillos se colocan en seco.

It has been said, that it was something studied in roofs and floors, but it was not analyzed from the point of view of those elements, and roofs and floors must lay out somewhere.

The exterior element: the location

From the point of view of the treatises, the location complies with these principles from the point of view of the treatises, taking into account that it is recommended to have trees nearby, so that their timber can be useful as fuel- and as construction material- and running water, because it is very expensive to bring it from far away.

Exteriors of Kenwood House: as it can be seen, there are water and trees.

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The distribution element: the layout

From the point of view of the distribution, it's important to do previous schemes, plates, plots and models before the construction starts, and avoid to start before being sure of what the project is, in order to avoid extra costs and materials.

The structural element: the foundation

Related to the foundation it is like the space layout, production and aesthetical principles are more or less the same in the contents of the treatises. Foundation relies on the soil and the superstructure: we found some parameters to do a proper foundation. Wotton (1624) does not recommend lime mortar if it is necessary to put timber because the mortar corrodes the timber; North (1695-6) does not recommend either because he has observed that its hardness is superficial, that means its stability is not enough. In the regulation we can find descriptions of the foundations and in some treatises, that the thickness of the foundation must be double of the projected wall. And other point; the stones that have been put on it must be in the same way that they laid in the quarry, this is something contemplates nowadays because the sedimentary and metamorphic stones work better.

There is a detailed description from Moxon (1703) about the required techniques in different kinds of soil in order for the foundation to work properly, starting with the easiest situation till the most difficult one.

The soil is something that is not under control, it is a fact that they know very well (because is something learned in the old times, we have to remember that in some cases they compiled old information) and they try to use simple techniques to solve the different problems. The detailed explanations allow us to do a foundation in the same way as them.

The structural-envelope element: the wall.

Here happens the same as the foundations: the length of the information given by the treatises is very difficult to cover and it is remarkable the detailed descriptions of walls and required materials: from the dimensions to the kind of bonding; descriptions of the several kinds of mortar depending on the elements that they have to join and the kind of mortar that they need. Even is talk about the way of burn the stone to do lime, the way to extract clay and work it to do de brick. Without forgetting quality control, obviously, a simple way of control, but the aim that the work must be well done.

Treatises not only talk about materials, they also talk about the techniques of good construction: as covering the wall during the night in order to avoid the rain, not working during the winter months to avoid the freezing mortar, which weakens the bonds of the fabric. The description of several kinds of bonds; what is avoidable during the wall construction and the need for seats control.

The envelope element: the window

The production of windows is just described by Moxon (1703) and Nicholson (1812), who talked about construction techniques. Besides the fact that they are described in just two treatises, we really have an explanation. Talking about the materials of the

windows, glass and lead, as it has been seen in bricks and mortars, the explanations are very detailed. Maybe a little bit obsolete today, but we have it.

The installation element: the chimney

When talking about the production of the chimney, both the descriptions of the guidelines of the early 18th century as well as the construction of the funnel and the several descriptions of its parts and execution are considered. This is very clear in the "*Builders dictionary*" (Gibbs, James & Hawksmore, 1734), which echoes Gaugier's explanations (1714), and in the "*Edinburgh Smokey Doctor*" (Brownlie &Carmichael, 1757) which talks not only about how to repair chimneys but it also offers precise instructions and a number of sketches of what the chimneys must look like. Besides, we also have the guidelines of the end of the century, which are described by Nicholson (1812) as well as the "*Builders Magazine*" (Society of Architects, 1779). Strangely enough, we haven't found any explanations about the production of chimneys in Moxon (1703) or in Nicholson (1812), since they just state what the regulations say. However, we have found the parts of the chimney and what had to be avoided, but not how to build them.

The structural element: the staircase

Basically they indicate how to do the calculation of the staircase, and the dimensions in order to accomplish with its function of being the way up and down in a comfortable manner.

It is in the production in general where it is easier to see the periods in the treatises: if we look at the contents in general about the techniques production Moxon, Nicholson and the "*Edinburgh Smoky Doctor*" (Brownlie & Carmichael, 1757) wrote from the worker's point of view, the recommendations are clearly given in order to do a good job and be proud of it, that it will be durable without problems, they are very didactic. They take into account the weather and the seasons in order to build or extract materials.

The dictionaries of Neve (1703/1736) or the "*Builders Dictionary*" (Gibbs, James & Hawksmore, 1734), as it has been said, do not have a defined reader, it is possible to read them from the workers' point of view as the point of view of the architect or the builder; as they are dictionaries they have a neutral tone. The details in materials are very similar to Moxon´s (1703) but it could not be criticized, at least they are dictionaries.

On the contrary, Gerbier (1663) and North (1695-6) are written for builders. The first one is a little bit vague in its descriptions, it transmits general knowledge; but the second one made clear the descriptions to prevent the owner from being cheated. He is one who considers the quality control of the materials very important, especially in the case of bricks.

Ware (1756), is very didactic but his writings are for the young architect; it is quite complete, because he reaches to detailed explanations but it is noticeable that the final reader is an architect. Where the level of detail is astonishing is when he talks about materials; he considers that the architect must know them and how they work, because material is a very important part of the design. When he talks about the calculation it is not detailed, but offers some wise advices.

The "Builder´s Magazine" (1779) - written by the Society of Architects- it seems to be directed to architects; many of the descriptions of the techniques and materials are from Ware's book. The difference with Ware is that he includes the regulations at the time, which is important.

Other book where it is possible to find techniques but in a plain way and directed to the young architects is "*The Rudiments of Architecture*" (Anonymous, 1773); the fact that it contents them is important, but the contents have not the entity of the rest. It is a simplified copy.

That is, there are a lot of descriptions of construction techniques which achieve a level of detail quite remarkable, and from several points of view.

Obviously it could not be possible without the Great Fire: Moxon (1703) wrote from the workers side and describes techniques in books. We have to remember that the "Mechaniks" at the beginning was a periodical magazine, dictionaries practically copy from it, and Nicholson (1812) updated them into the new century. Maybe the vision of just one man was not a justification, but if it was not useful, they were not edited during all the century till Nicholson arrived and update it.

North (1695-6), does not contradict what Moxon (1703) said either; his book is contemporary with the periodical edition, but his point of view is the builder´s one. In a way the century starts with two extra treatises with regards to the point of view on the same subject.

Other case is Ware (1756), his knowledge about materials reaches unpredicted limits. But his reader is the architect or those who understand architecture.

5.Aesthetic. Private and public convenience of aesthetic and communicative qualities. .

This point is mentioned in the treatises when they talk about the convenience that decorations in the facade must be few in order to avoid extra weight and represent the social status of the family who lives there. As Ware (1756) says:

Here is a space to be covered with buildings: and the great consideration is its division into parts, for different uses; and their distribution. In this regard is to be had to two things, the convenience of the inhabitant, and the beauty and proportion of the fabric. Neither of these should be considered independently of the other, because if it be, the other will not sail to be sacrificed to it; and this, which should be very disagreeable, is never absolutely necessary

Aquí tenemos un espacio que cubrir con edificios: y la gran consideración es la división en partes, para diferentes usos; y su distribución. En este cuidado se ha de tener en cuenta dos cosas, la conveniencia del habitante, y la belleza y proporción de la fábrica. Pero ninguna de las dos se puede considerar independientemente de la otra, porque si así fuera, la otra no dicha ha de ser sacrificada a ello; y esto lo que ha de ser muy desagradable, no es nunca absolutamente necesario.

And aesthetic parameters of the building are the ones contrast with the reality (not the only ones, but the easiest ones) along this point is easier link the said by the treatises and the studied cases.

The exterior element: the location

Treatises recommend having good views. Each author- with their own taste- offers a series of guidelines for this, but they all seem to agree that the human eye cannot cover a view to wide, and that a limited view is very boring a happy medium is the best option. But, if we have to choose, it is easier to fix a wide view planting some trees than trying to widen a narrow view.

One of the best things in mansion houses is the view, which means that, in this case reality agrees with books.

The distribution element: the layout

It is complicate to make a difference between the production and the aesthetic, as it has been said, the treatises recommend the realization of previous designs thought by to the owner, and the activities that he or she must do in the house. But that is part of the aesthetic as well as the production because a good design makes a house of a good quality and helps and makes it cheaper.

A good example from the reality, which could show the mixture between the layout and the aesthetic is Newhailes, in Lothian near Edinburgh, it is a mansion house not use in the examples because is not enough information, but is possible to observe some strange detail:

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The south and north windows from the east side of the house are dummy windows. The explanation is that in that part of the house the owner has the library, and decided to put dummy windows from the beginning because he wants the light to come in just from the east side and in the north, south and west walls is where the book shelves are.

That is, the aesthetic of the house is continuous, the facade is perfectly symmetric, but it is adapted to an interior utility: a library with east light.

The structural element: the foundation

As it has been mentioned the foundation design is part of its production.

The structural-envelope element: the wall

It talks about the aesthetic of the wall but linked with the windows and the rest of the envelope elements. In these principles there is the element facade, which is well analyzed in the cases studied because it is very accessible.

The envelope element: the window.

When we talk about the aesthetics of the windows, the treatises mention the required proportions in order to let the correct light into the room; this proportion depends not only on the light coming in but also on the location of the window in the building as a whole. Windows on the ground floor have a different height to the ones in the higher stories because the distance between floors on the higher floors is shorter than the one in the lower one; another reason for this is that the distance between floors decreases as we go up on the building. It talks about the proportions that the window requires as well as the decorations of the windows, what they look like. In fact, the treatises in general talk about this topic, like Sir William Chambers (1759), that he has no further comments on other topics but it is quite clear about the proportion of the windows.

That is very clear in the study cases; the houses located in Soho (a popular part of London) are plainer than the facades of the houses located in Cavendish Square or Saint James Square, which are more prestigious places.

This aesthetic relation between the wall and the window as envelope elements, and their parameters in the treatises and regulations were the principal (not the only ones) in order to study the cases. This principle in these elements is the most noticeable.

Besides the decorative function and showing the status, when we talk about the composition of the facade, the design of the voids complies with the regulations. It is important to take into account the regulations directly linked to the integrity of the building. The size of the window is not random, it follows certain regulations; it happens also with the staircases, their design has to comply with some basic requirements. The design can then be as complicated as you want, but mustn't forget their purpose.

It is important to be realistic, there is maintenance of the voids, the proportions and the decoration in the windows, but very few of the examples have the proper window from the 18th century. As it is mentioned in the treatises, the window is a weak point, not just from the structural perspective, but it is also a weak point in the maintenance of the building energy. This means that the need to save energy marks a tendency to replace old windows with others similar-looking, with lower energy cost. But maybe an exhaustive study of the way to make old windows allows us to discover weak points and repair them instead of replace them.

The installation element: the chimney.

The proportions of the chimney must be connected with the proportions of the room where it is, as it has been seen, clearly, in the study cases.

The chimney is the most controversial installation in this period; it is the heating of the house. If we consider the weather in Great Britain, its importance is not strange.

At the same time it is the most dangerous element in comfort levels, because a bad execution of the funnel could be the most uncomfortable problem; and if there is no caution in its use, it is the main point in the case of a fire. Those are the reasons why it is important being careful in the design and the importance of the chimney in the regulations.

But all these problems mean that the chimneys today are out-dated. When the study cases were being done, we were faced with the same problem as with the windows from and energy point of view, it is not a very sustainable element and, besides keeping the conducts open, it can cause diseases. For this reason, in most buildings they have been closed down. In some places they maintain the structure but the use is not allowed because it's an infection point and a waste of energy.

Some recent aspects of restoration recommend a partial shut-down. Because when the isolate of the buildings envelope is done, it could cause overheating and a grille in a strategic point of the old funnel could solve it.

The structural element: the staircase.

The staircase and the aesthetic are totally connected. There is precise advice about its design and its importance to a social level, the stair-case represents the status, the social situation of the owner, but it always has to have with a minimum utility.

That is something noticed in the study cases, the staircases have different characteristics depending on the kind of house.

If we talk about aesthetics in construction in Great Britain we talk about the mark of social status in facade, in staircase, chimneys decorations, depending on in which part of the house they are, there are more or less plain. The elements never lose their use, all the elements have their use but depending on their location in the house they have an aesthetic or other.

Recompilation

As the main objective is using the treatises as a tool in the refurbishment of historic buildings, with the parameters found about location and layout, we could recognize the buildings of this historical moment.

During the characterization of the buildings, knowing the construction moment is one of the first steps to go on with the restoration of the building. Obviously there are listed buildings, but not all the cases are in these lists. And the knowledge of the characteristics of a building from a determined period helps to orientate the possible restoration.

The next step will be to see the kind of soil: during this study several kinds of foundations have been defined, depending on the soil, if we know the kind of soils we could know the kind of foundation. Other way to know the thickness of the foundations is measuring the ground floor wall thickness- it has to be the double of the wall. But the answer to whether it has braces or piles is in the kind of soil.

The kind of stone or brick, give us the proportion of the several elements in the lime mortar. If the wall is made of stone, the lime probably is from the same kind of stone, and the geographical situation of the building could give us the kind of mortar.

The angles in the corners are strong following the indications, with cross bonds or using a stronger material.

The thickness of the wall would be diminishing when we are in higher floors, the wall is solid, no *opus caementicium*, it is named but just as general information, is something not used in Great Britain.

Fascias joined to the wall with metal elements and its situation is in the facade, which probably has ruined them with the help of wet weather. The decorative elements of the facade have the same problem.

Another weak point is the window, because it is made from timber, an excellent hygrometric material, and it is jointed to the wall by metal elements. Glass is plain and probably it is a thermal bridges.

The funnels go to the roof, it is a natural ventilation, maybe too much but if we are going to insulate the envelope of the building, maybe we could use the funnels to avoid the overheating, just leaving a grill or making the installation to help in the ventilation.

Last critical reflection

As it has been seen in the development of this last hypothesis, it was necessary to develop all the material during the current study and the rest of the hypothesis.

Besides it has been possible to contrast several of the considerations with that reality moment because the treatises are not unconnected to the constructed reality. Unfortunately, the study cases have been more formal and aesthetic. An objective for a future thesis could be contrasting the veracity of lime mortar with some studies carried out nowadays.

During the whole process, in a way to organize contents, they have been separated by elements or principles, but there is a remarkable characteristic in the treatises, which is that it is very difficult to talk about some elements without mentioning others.

In many cases, we repeated the same comments because what was being said was applicable to two elements at the same time. It is impossible talking about foundations without mentioning the wall, or talking about the wall without mentioning the windows and the chimneys, or talking about windows without mentioning that its location must be favourable for the chimney to operate. And when we talk about the staircases, they are structured around all the spaces, which means too many repetitions but this is unavoidable.

This leads us to conclude that treatises, virtually from the beginning, the construction of a building is considered as a WHOLE; the only treatise writer who complies with this "wholeness" of this construction knowledge is Alberti's.

Agüera (1997) already said that Wotton is an Albertian in the way he considers the treatise, and seeing that, in a way, all the other treatises are influenced by this first British treatise.

After a carefully looking at the contents, which have been easily classified following the constructive principles, the ones follow the Alberti (1546) quote:

> "*De todo ello resulta que el objetivo de la edificación se articula mediante seis partes: el ambiente, el área, la subdivisión, la pared el techo y la abertura*"
>
> "*From all this results that the goal of the building is articulated in six parts: environment, space, lay out, the wall, the roof, and the appertion*".

If to all this we add the fact that, besides taking into account the finest detail, the objective of the building is to be of use to its occupant, it's confirmed that the British writers who have been studied can be considered Albertian.

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